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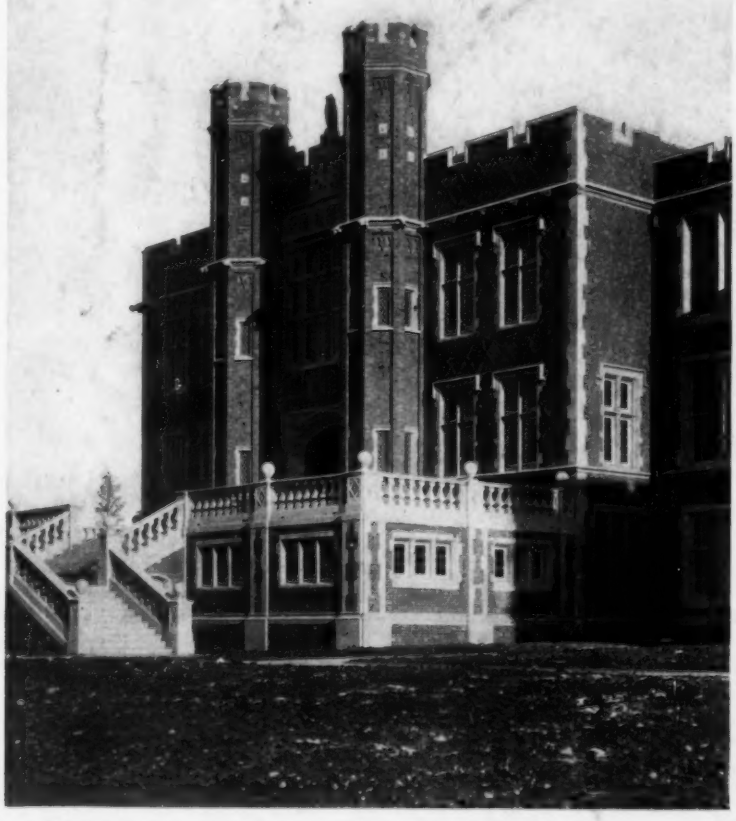

VOL. VI
No. 4

OCTOBER
1930

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21.	Miss Alice M. Price	(B) Pierre High School	Pierre	South Dakota
23.	Miss Louisiana Buford	Jordan High School	Louisiana	Missouri
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NOVICE

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8.	Miss Vessie Hall			
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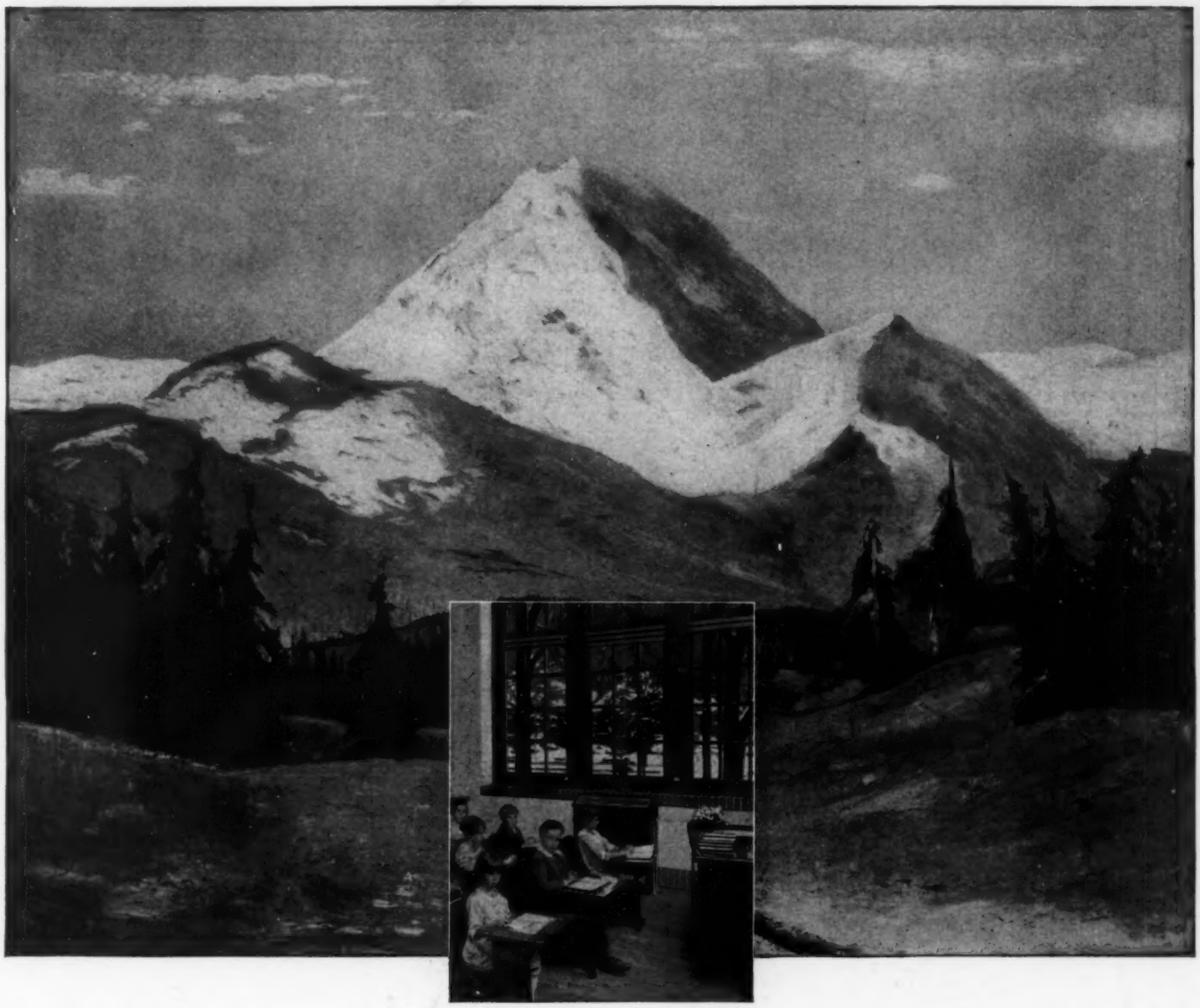

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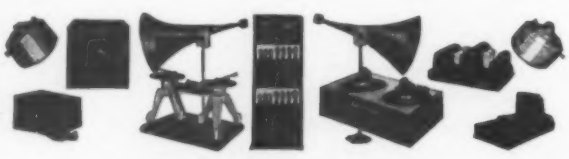

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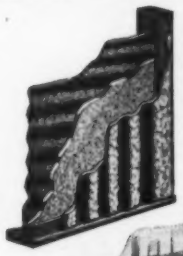

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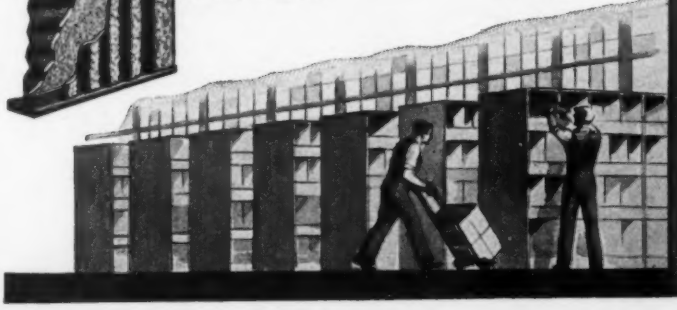

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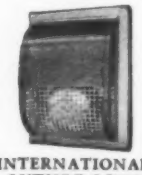

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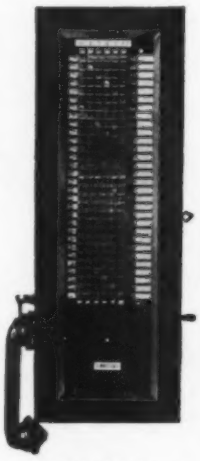

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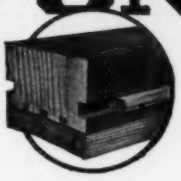

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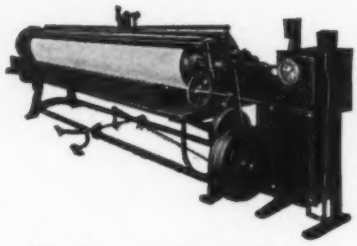

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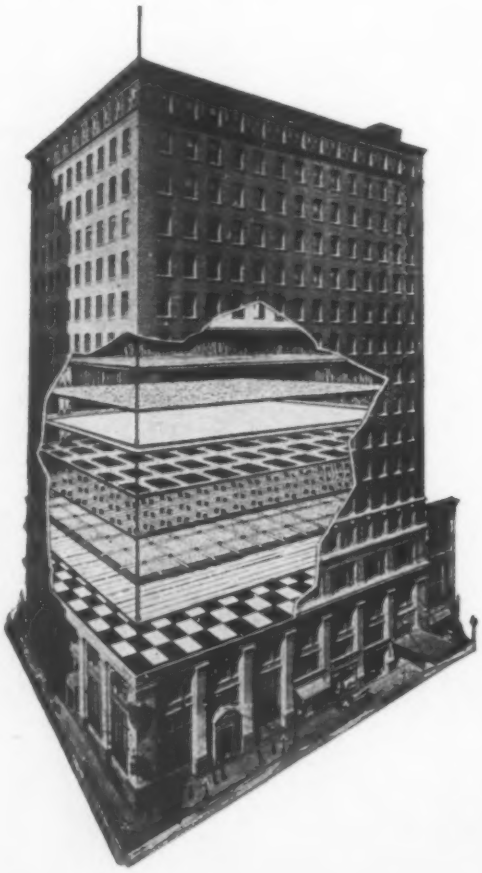

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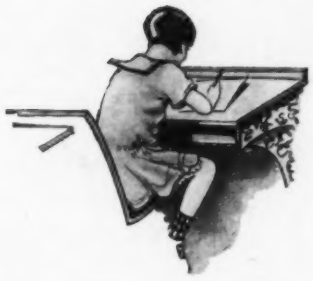

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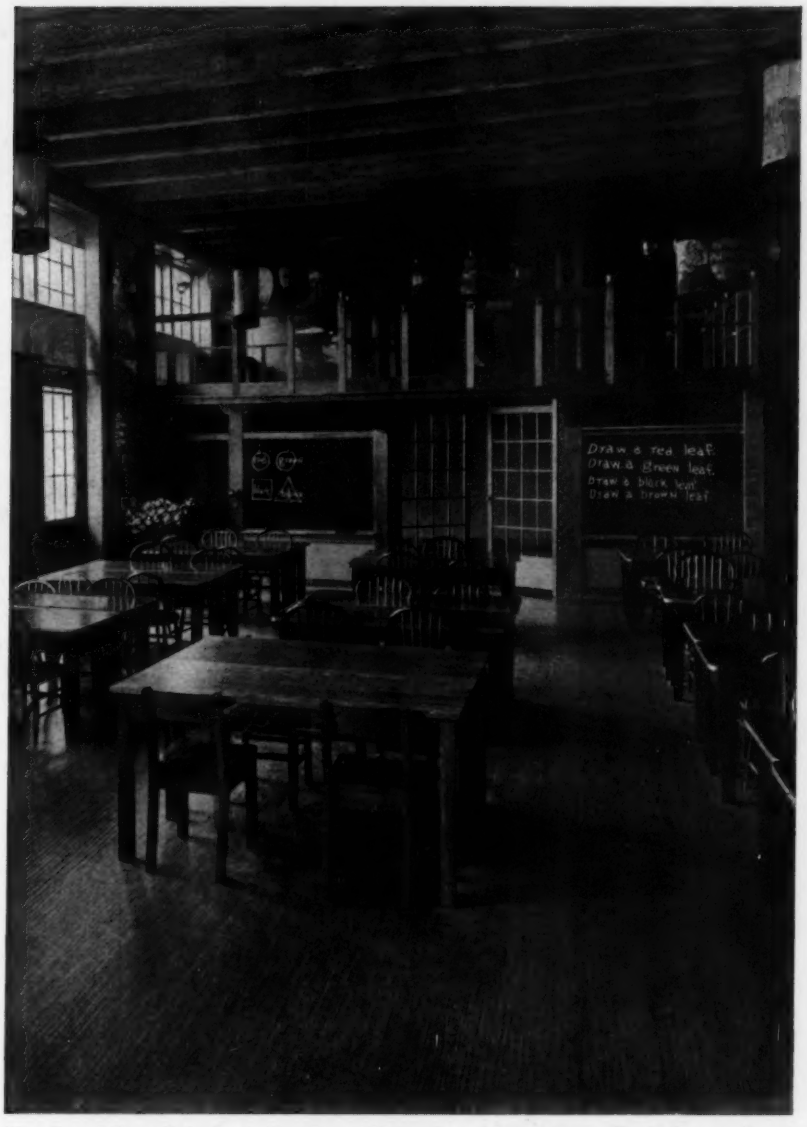

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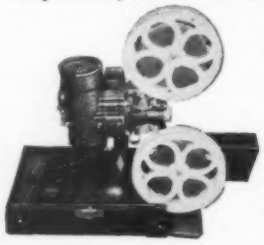

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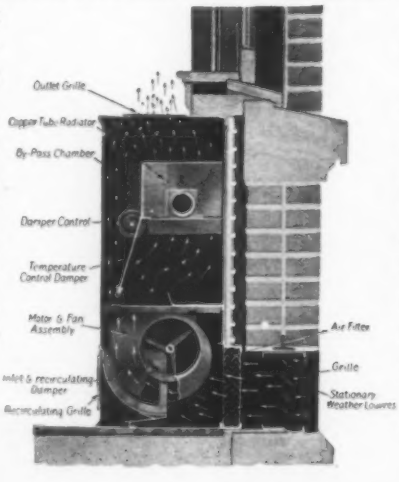

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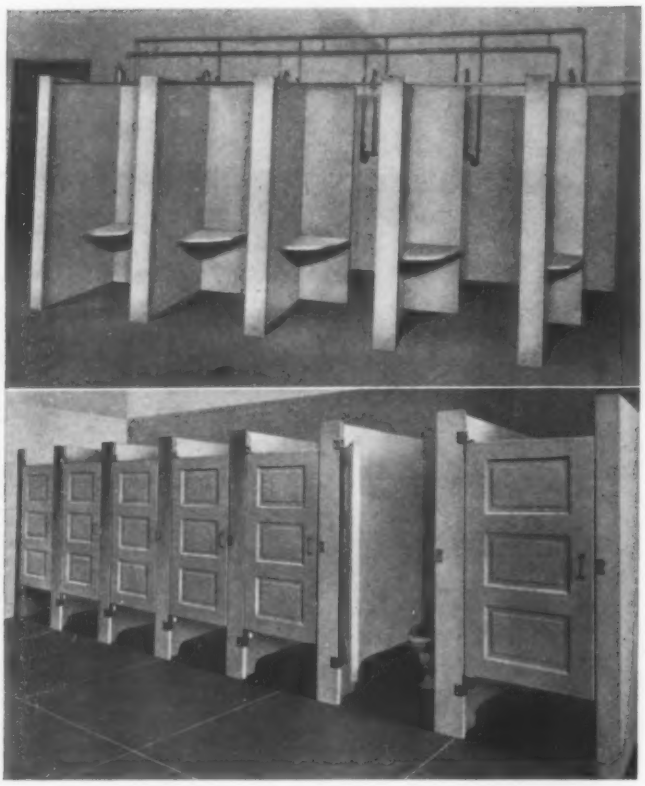

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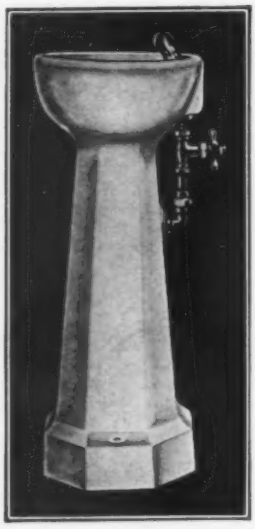

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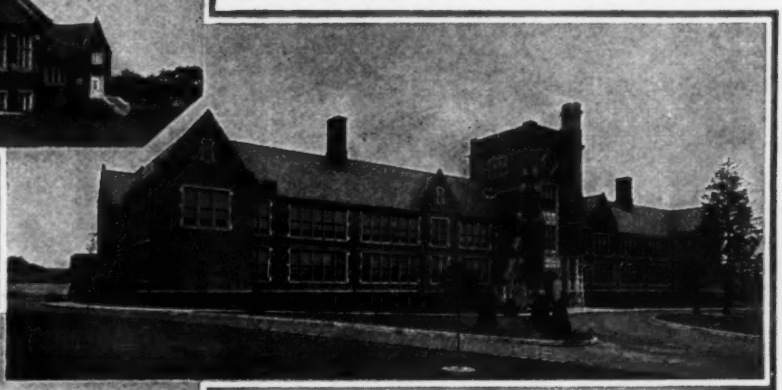

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Heating Contractor: Howard Hutchison, Philadelphia, Pa.

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Pages C3130-C3135

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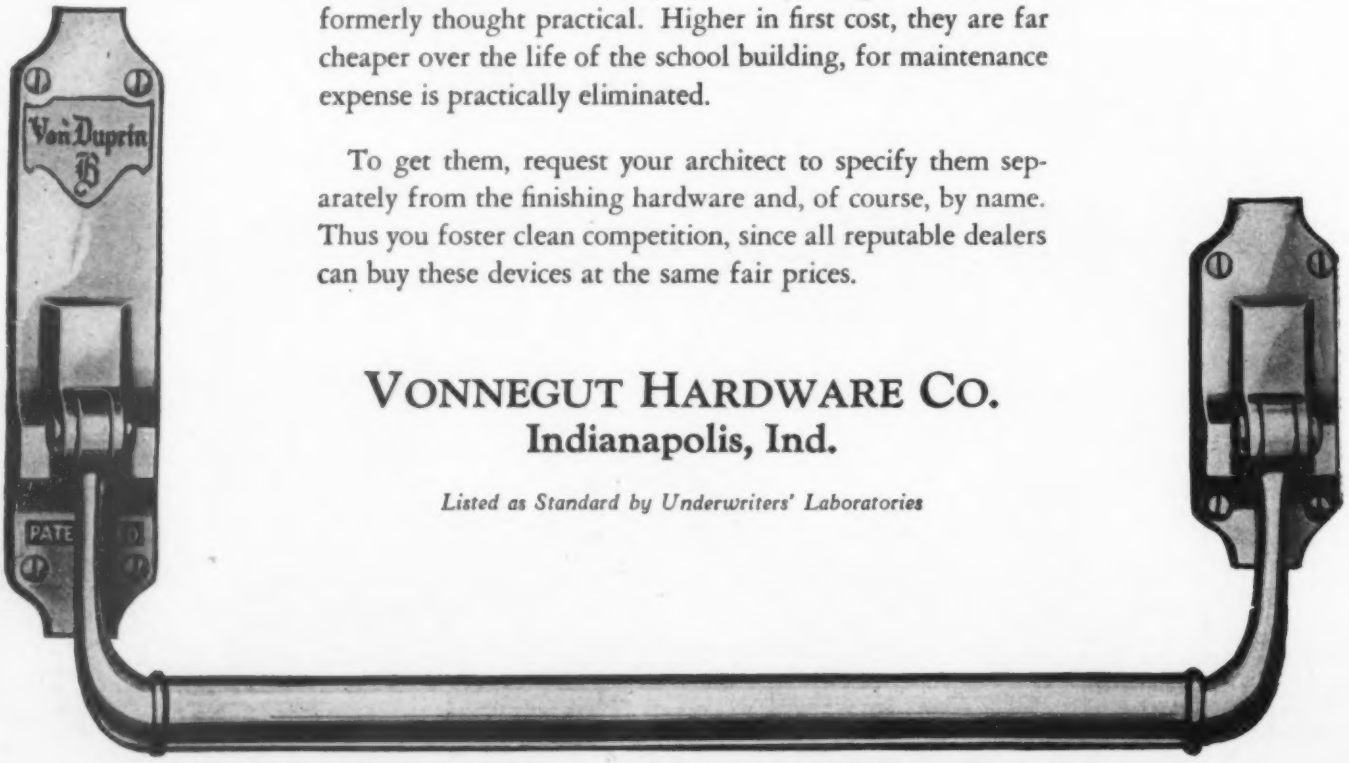

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The
NATION'S SCHOOLS
DEVOTED TO THE APPLICATION OF RESEARCH TO
THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS

VOLUME VI | OCTOBER, 1930 | NUMBER 4

How Homogeneous Is a "Homogeneous Group"?

Various plans for combining group and individual procedures in a well balanced program are here presented and their relative advantages discussed

By W. HARDIN HUGHES, Director of Administrative Investigation and Research, Pasadena City Schools, Pasadena, Calif.

DURING the past thirty years many attempts have been made to get away from the lock step in education and to provide for the individual differences of pupils. Longer ago than the beginning of the present century, in fact, progressive leaders in education were devising plans for the solution of this universal problem. The Cambridge Double Track Plan (1891) for variable speed through the grades; the North Denver Plan (1895) of ability grouping and enriched courses for the brighter pupils; the Batavia System (1898) providing an extra teacher in each classroom for individual coaching; the Santa Barbara Plan, devised about the same time, with its triple, concentric requirements in each grade; the Pueblo Plan (1901) of loose grouping and individual instruction—these and numerous other departures from ordinary classroom procedures are familiar to every student of educational history.

In more recent years ability grouping, differentiated requirements and individualized instruction have taken on a multiplicity of forms. Whether the plan adopted in any school system emphasizes the idea of homogeneous grouping or of individualized instruction, the ultimate aim is the same, namely, that of providing more adequately for the individual pupil. The proponents of the various plans, however, are far from agreement in their opinions as to the best methods for accomplishing this aim. Two antagonistic schools of thought, in fact, have been equally enthusiastic for their pet schemes. Within the past two or three years, however, there has been a marked tendency for the extremists to approach a middle ground, the advocates of homogeneous grouping coming to recognize the fictitious nature of homogeneity in actual practice and the proponents of individualized instruction admitting the wisdom of combining both group and individual procedures in a well balanced program.

Considerations That Bear on Ability Grouping

It is generally agreed that in every grade there is a wide range of abilities. The more capable pupils are able to carry more work and to do a better quality of work, or to do the same amount of work in less time than pupils of lower ability. No fact, however, is important enough to serve as a single basis for grouping. In the Pasadena system the preliminary grouping is based on a limited number of factors, namely, (a) chronological age; (b) educational age and educational quotient; (c) mental age and intelligence quotient; (d) composite judgment of teachers; (e) previous school record. In addition to the factors indicated above for the preliminary grouping of pupils, it is generally agreed in our system that the following should be taken into account: (f) physical condition as related to health; (g) school attitudes and work habits; (h) special abilities and interests affecting grouping within the sub-

ject or grade, and (i) home conditions as related to attendance and outside employment.

It will be noted that flexibility is one of the chief characteristics of the plan. A pupil should be transferred from group to group and promoted from grade to grade whenever his development justifies such transfer or promotion. The effectiveness of grouping should be determined not

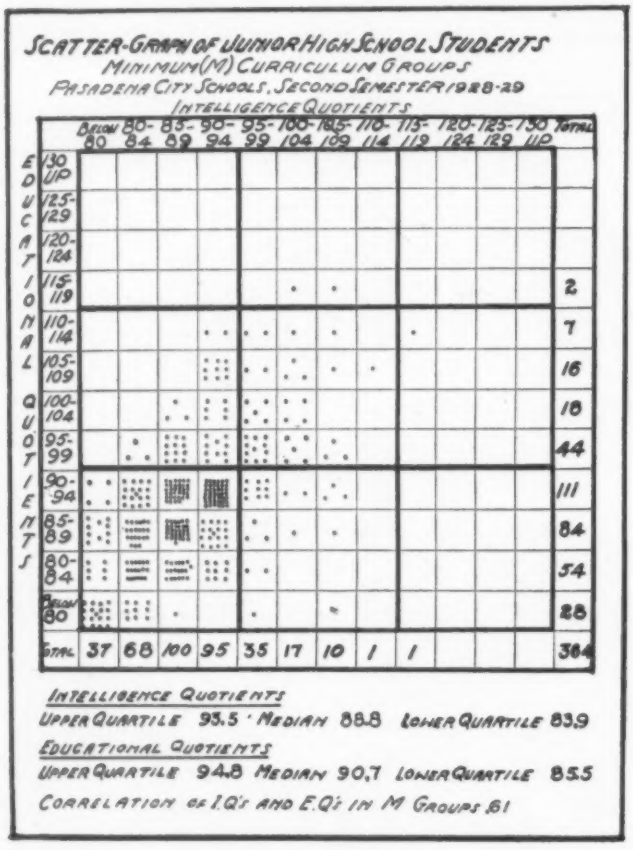
SCATTER-GRAPH OF JUNIOR HIGH SCHOOL STUDENTS
MINIMUM (M) CURRICULUM GROUPS
PASADENA CITY SCHOOLS, SECOND SEMESTER 1928-29
INTELLIGENCE QUOTIENTS
EDUCATIONAL QUOTIENTS
INTELLIGENCE QUOTIENTS
UPPER QUARTILE 93.5 MEDIAN 88.8 LOWER QUARTILE 83.9
EDUCATIONAL QUOTIENTS
UPPER QUARTILE 94.8 MEDIAN 90.7 LOWER QUARTILE 85.5
CORRELATION OF I.Q.'s AND E.Q.'s IN M GROUPS .81

Chart 1. In this scatter-graph each dot represents a pupil whose I. Q. corresponds to the number at the top of the column and whose E. Q. corresponds to the number in the left hand margin.

alone by skills and subject matter achievement as indicated by marks and test scores, but also by the extent to which pupils acquire those habits, attitudes and widening interests that are appropriate to their ages and ability.

The plan for grouping as outlined above has been in process of evaluation over a period of five years. During the past two years, however, it has become more uniformly established. The accompanying scatter-graphs show the extent to which grouping is based on intelligence quotients and educational quotients and also the correlation between these two sets of quotients. We should state in this connection that the average of I.Q. and E.Q. was used as the actual basis of the initial grouping, 95 being taken as the upper limit of the "minimum" (M) group; 95 to 115 as the limits of the "average" (A) group, and 115 as the lower limit of the "enriched" (E) group. Those responsible for carrying out the plan were instructed to vary the grouping in accordance with their best judgments after due consideration of the other factors as set forth in a preceding paragraph.

It will be noted in the scatter-graphs that the tendency is to place pupils in their respective groups according to their intelligence and achievement as measured by standardized tests. The number of exceptional cases, however, is significant and would lead us to assume that other factors have actually been taken into account in the grouping of pupils. The discrepancies point to the necessity for an intensive study of individual cases. All of this adds to the responsibility of counselors and teachers for a careful checking up on all pupils whose abilities and achievements seem inconsistent with their classification.

When the 2,383 pupils included in this portion of the study are thrown on a single chart, we find

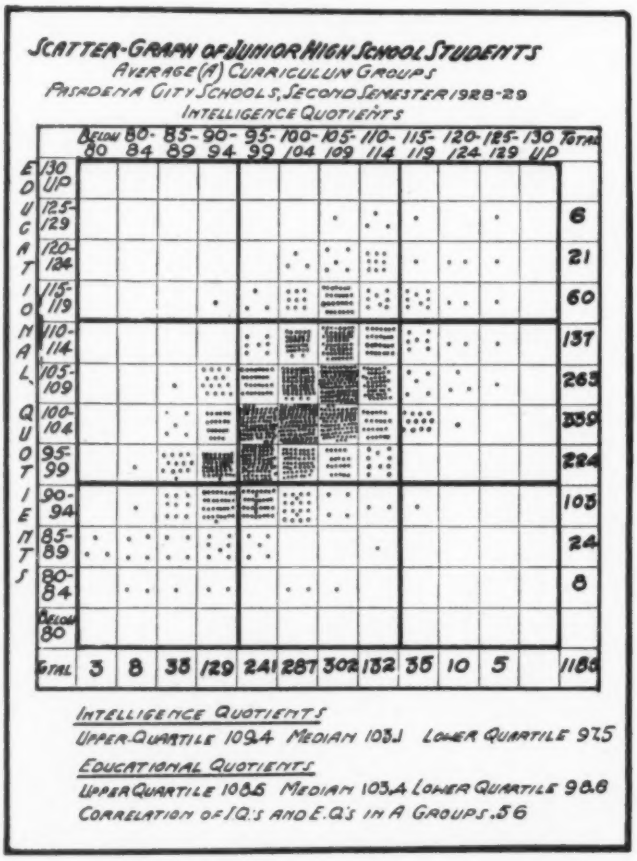
SCATTER-GRAPH OF JUNIOR HIGH SCHOOL STUDENTS
AVERAGE (A) CURRICULUM GROUPS
PASADENA CITY SCHOOLS, SECOND SEMESTER 1928-29
INTELLIGENCE QUOTIENTS
INTELLIGENCE QUOTIENTS
UPPER QUARTILE 109.4 MEDIAN 103.1 LOWER QUARTILE 97.5
EDUCATIONAL QUOTIENTS
UPPER QUARTILE 108.6 MEDIAN 103.4 LOWER QUARTILE 98.6
CORRELATION OF I.Q.'s AND E.Q.'s IN A GROUPS .56

Chart 2. This scatter-graph is similar to the preceding one. Each spot represents a pupil.

a correlation of 0.84 (Pearson's r) between intelligence quotients and educational quotients. At first thought we may consider this a remarkably close agreement. A careful examination of the scatter-graphs, however, is sufficient to dispel this illusion. In Chart 2, for example, note how varied is the achievement of pupils whose I.Q.'s

range from 100 to 105. In this narrow range of five points in intelligence, the achievement quotients of pupils range from 80 to 125.

Let us consider for a moment the relation of intelligence *and* intelligence as measured by two well known group tests.[1] This relationship may be seen in Chart 4. If there were a perfect agreement between the quotients derived from these two tests the numbers representing pupils would all be included within the heavy squares extending from the lower left-hand corner to the upper right-hand corner of the chart. A comparison of medians and quartiles, respectively, seems to indicate a close agreement. Even the correlation of 0.84 is high, statistically speaking, but to appreciate the real significance of these relationships we should, as before, note the wide range of individual variation. Take, for example the scatter of cases in the sixth column of the chart where we find that a narrow range of ten points on "Test X" is sufficient to include pupils whose I.Q.'s on "Test Y" range from 90 to 140.

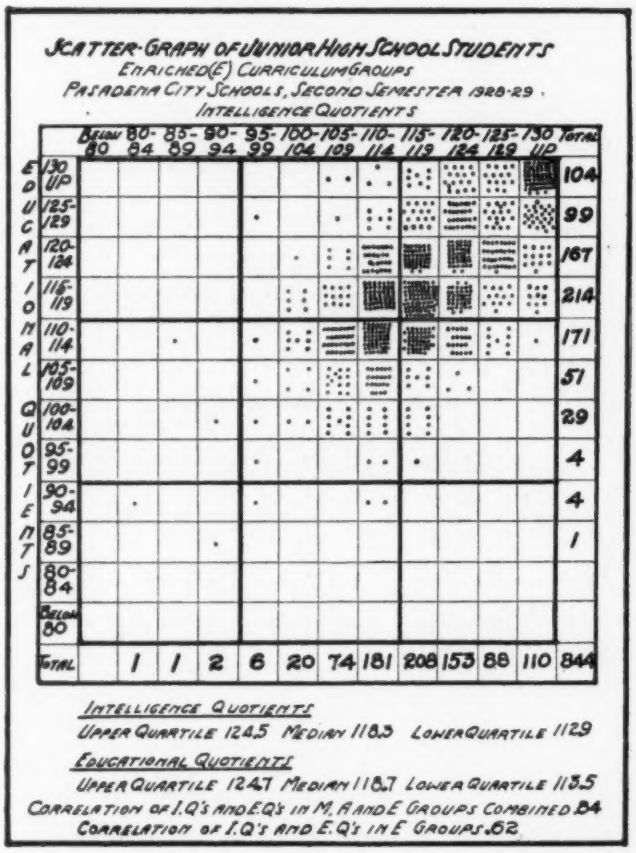
SCATTER-GRAPH OF JUNIOR HIGH SCHOOL STUDENTS
ENRICHED (E) CURRICULUM GROUPS
PASADENA CITY SCHOOLS, SECOND SEMESTER 1928-29
INTELLIGENCE QUOTIENTS
EDUCATIONAL QUOTIENTS
TOTAL
INTELLIGENCE QUOTIENTS
UPPER QUARTILE 124.5 MEDIAN 118.3 LOWER QUARTILE 112.9
EDUCATIONAL QUOTIENTS
UPPER QUARTILE 124.7 MEDIAN 118.7 LOWER QUARTILE 113.5
CORRELATION OF I.Q.'S AND E.Q.'S IN M, A AND E GROUPS COMBINED .84
CORRELATION OF I.Q.'S AND E.Q.'S IN E GROUPS .62

Chart 3. This scatter-graph is similar to Charts 1 and 2. It is to be read in the same way.

Whether we take as a basis for comparison the quotients of "Test X" or of "Test Y" such marked discrepancies are found.

These facts are brought out significantly in Chart 5 where the comparisons are based on the data of Chart 4. When pupils of an "enriched curriculum" group as determined by one intelligence test scatter themselves through all three ability groups when classified by a different intelligence test, we cannot be certain of homogeneity even with respect to general intelligence.

Many of the group intelligence tests have much lower intercorrelations than the 0.84 ob-

SCATTER-GRAPH OF STUDENTS ACCORDING TO INTELLIGENCE QUOTIENTS AS DETERMINED BY TWO WELL-KNOWN TESTS GRADE NINE STUDENTS PASADENA JUNIOR HIGH SCHOOLS 1929-30

"Y" / "X"	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-UP	TOTALS
140-UP							2	5	5	12
130-139						2	5	9	8	24
120-129					4	21	28	9	6	68
110-119			1	5	25	44	32	5		112
100-109			2	16	77	57	15	2		169
90-99		3	20	52	58	26	1			160
80-89		5	26	33	14	1				79
70-79		3	5	2						10
60-69	1	2	4	1						8
TOTALS	1	13	58	109	178	151	83	30	19	642

INTELLIGENCE QUOTIENTS BY GROUP INTELLIGENCE TEST "Y"

LEGEND

MEDIAN AND QUARTILE QUOTIENTS COMPARED

	FIRST QUARTILE	MEDIAN	THIRD QUARTILE
TEST "X"	98	108	117
TEST "Y"	95	104	115

COEFFICIENT OF CORRELATION 84

NUMBER IN EACH SQUARE INDICATES STUDENTS

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Chart 4. This correlation chart is to be read as follows: 1 pupil whose I.Q. on Test X is between 60 and 70 also has an I.Q between 60 and 70 on Test Y; 3 pupils whose I.Q.'s on Test X are between 70 and 80 fall between 80 and 90 on Test Y; etc.

tained for the above. In fact, Doctor Kuhlmann found a correlation of only 0.70 between the Terman and the Kuhlmann-Anderson tests in grades nine to twelve inclusive. He also reported correlations between the Kuhlmann-Anderson Intelligence Tests and each of the following intelligence tests: Pintner-Cunningham, 0.62; Otis Group Primary, 0.61; Detroit Primary, 0.69; National Intelligence, 0.78; Detroit Alpha, 0.80; Otis Self-Administering, 0.62. In certain grades the correlations were lower than those reported above. When a correlation of 0.84 permits discrepancies such as those shown in Chart 5, certainly much lower correlations would result in even greater discrepancies in grouping. Some of the best known and most widely used intelligence tests

[1] Terman Group Tests of Mental Ability (Test X) and Kuhlmann-Anderson Intelligence Tests (Test Y).

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have reliability coefficients of less than 0.90 between Form A and Form B of the same tests.

But coefficients of correlation uninterrupted are meaningless. Perhaps no other type of statistical information has been more frequently misused. The technique for finding this index of relationship, first developed in the fields of biology and economics where the purpose was to ascertain whether any degree of relationship existed between two sets of facts, was carried over by

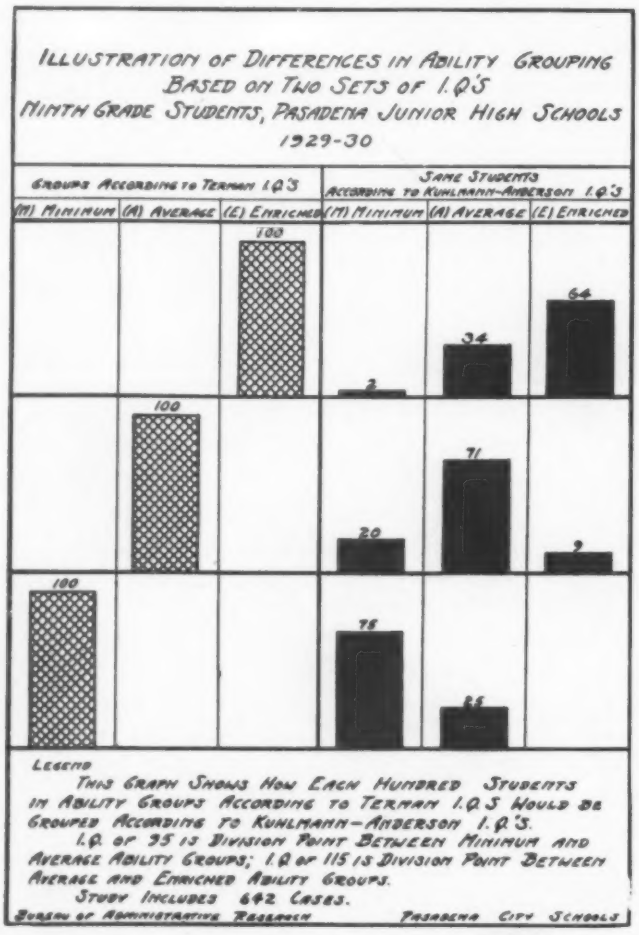
ILLUSTRATION OF DIFFERENCES IN ABILITY GROUPING
BASED ON TWO SETS OF I.Q'S
NINTH GRADE STUDENTS, PASADENA JUNIOR HIGH SCHOOLS
1929-30
GROUPS ACCORDING TO TERMAN I.Q'S
SAME STUDENTS ACCORDING TO KUHLMANN-ANDERSON I.Q'S
(M) MINIMUM
(A) AVERAGE
(E) ENRICHED
100
100
100
2
34
64
20
71
2
75
25
LEGEND
THIS GRAPH SHOWS HOW EACH HUNDRED STUDENTS IN ABILITY GROUPS ACCORDING TO TERMAN I.Q.S WOULD BE GROUPED ACCORDING TO KUHLMANN-ANDERSON I.Q.'S.
I.Q. OF 95 IS DIVISION POINT BETWEEN MINIMUM AND AVERAGE ABILITY GROUPS; I.Q OF 115 IS DIVISION POINT BETWEEN AVERAGE AND ENRICHED ABILITY GROUPS.
STUDY INCLUDES 642 CASES.
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PASADENA CITY SCHOOLS

Chart 5. This chart is based on data for the 642 pupils included in Chart 4. The legend is explanatory.

statisticians into the field of education where the real purpose involves considerably more. We wish to know beyond the mere fact of relationship the degree to which the agreement approaches perfection. Other techniques than those for finding coefficients of correlation are necessary for this purpose. A correlation of 0.84, for example, is not to be interpreted as 84 per cent of agreement, as may be seen in Chart 4 where only 245 or 38 per cent of the 642 cases fall within the heavy squares and are therefore approximately in agreement as measured by the two tests. It will be noted, furthermore, that the divisions on the two scales in this chart are by tens. If the divisions were reduced to fives instead, the actual agreement would be 134 or 21 per cent of the 642 cases. While trained statisticians do not interpret a given correlation as a percentage of agreement between two sets of measurements, other persons have done so.

Coefficients of correlation, however, are not harmful in themselves. They are essential, in fact, in certain types of statistical work, but when improperly used and especially when misinterpreted, they serve as effective instruments in establishing and in perpetuating error. During recent years there has been a tendency in too many quarters to substitute complicated statistical techniques for common sense and experimental observation.

We have seen something of the problem in-

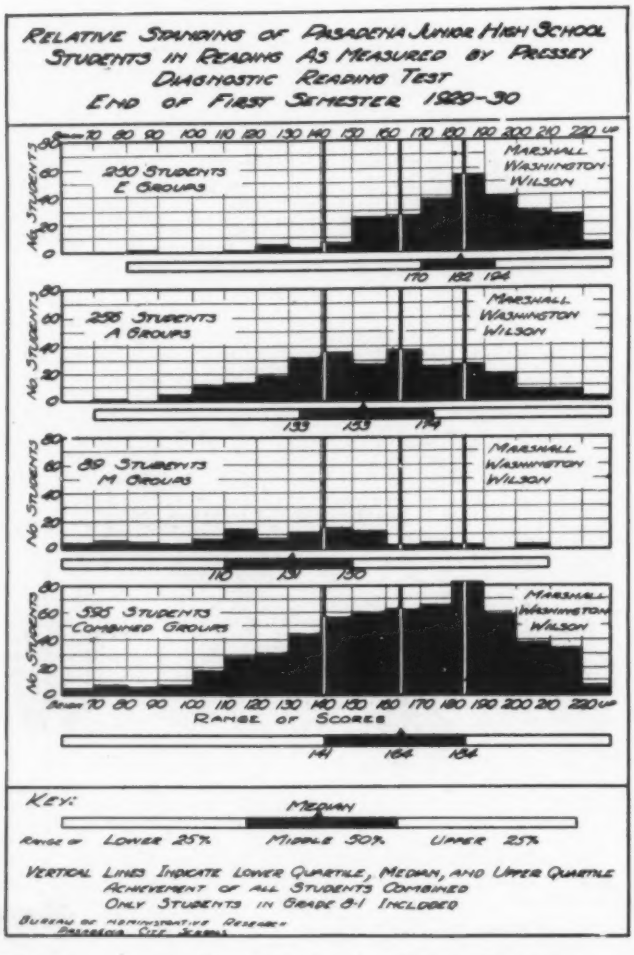

RELATIVE STANDING OF PASADENA JUNIOR HIGH SCHOOL STUDENTS IN READING AS MEASURED BY PRESSEY DIAGNOSTIC READING TEST
END OF FIRST SEMESTER 1929-30
230 STUDENTS E GROUPS
258 STUDENTS A GROUPS
89 STUDENTS M GROUPS
582 STUDENTS COMBINED GROUPS
MARSHALL
WASHINGTON
WILSON
NO. STUDENTS
RANGE OF SCORES
KEY:
MEDIAN
LOWER 25%
MIDDLE 50%
UPPER 25%
VERTICAL LINES INDICATE LOWER QUARTILE, MEDIAN, AND UPPER QUARTILE ACHIEVEMENT OF ALL STUDENTS COMBINED
ONLY STUDENTS IN GRADE 8-1 INCLUDED

Chart 6. In reading this chart, think of the black portion in each column as being a pile of pupils whose reading scores correspond to the numbers at the top and at the bottom of the column. The number of pupils in each may be estimated by reference to the figures in the left hand column.

volved in securing homogeneity with respect to whatever-it-is-measured-by-the-so-called-general-intelligence-tests. Let us consider the extent to which there is homogeneity in a single subject. In Chart 6, for example, may be seen the comparative reading abilities of the "enriched," the "average" and the "minimum" curriculum groups of the eighth grade together with the distribu-

tion of pupils according to their reading abilities in each of these groups. The tests used in this investigation were the Pressey Diagnostic Tests combining measures of vocabulary, paragraph meaning and speed. The general grouping was based on the several factors set forth in an earlier paragraph of this paper.

Although the median scores are such as to indicate a positive relationship between reading abilities and the factors used in grouping, the

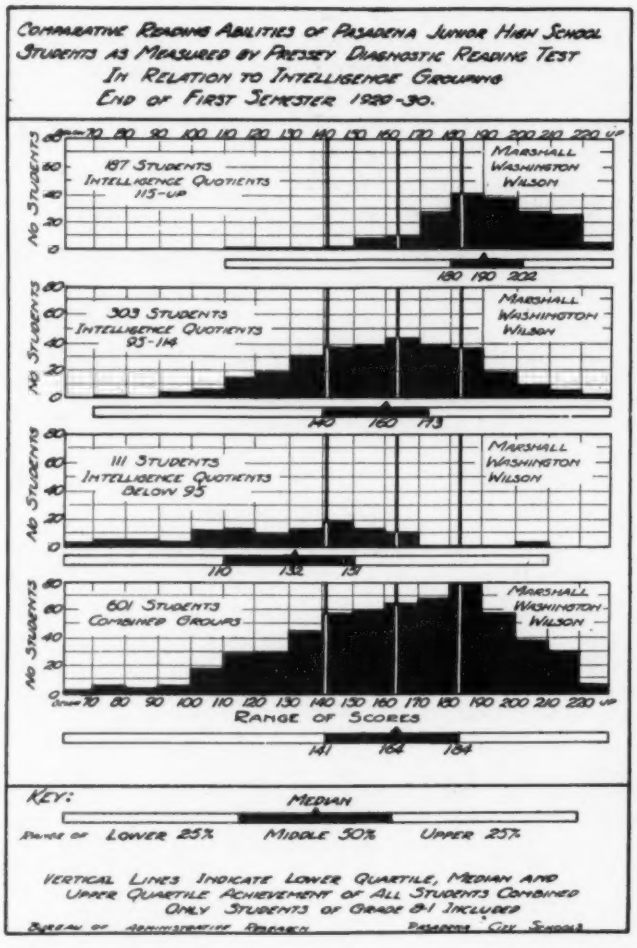

Comparative Reading Abilities of Pasadena Junior High School Students as Measured by Pressey Diagnostic Reading Test In Relation to Intelligence Grouping End of First Semester 1929-30.
187 Students Intelligence Quotients 115-up
303 Students Intelligence Quotients 95-114
111 Students Intelligence Quotients Below 95
601 Students Combined Groups
Marshall Washington Wilson
No. Students
Range of Scores
Key:
Median
Range of Lower 25%
Middle 50%
Upper 25%
Vertical Lines Indicate Lower Quartile, Median and Upper Quartile Achievement of All Students Combined
Only Students of Grade 8-1 Included
Pasadena City Schools

Chart 7. Read this chart in the same way as that suggested in the note accompanying Chart 6.

scattering in each group is so wide that homogeneity cannot be claimed. In every group there are pupils whose reading abilities place them well up in the best 25 per cent of pupils in general, as well as pupils who fall well down in the poorest 25 per cent.

Had the grouping been based on intelligence quotients alone the reading abilities in the three groups so formed would have been as presented in Chart 7. It will be noted that the division points in the scale of I.Q.'s were 115 and higher for the upper group; 95 to 115 for the middle group, and below 95 for the lower group. This grouping based on the single factor, intelligence quotient, would have resulted in a slightly improved classification for reading ability. A comparative examination of the medians and distributions of reading scores as presented in Charts 6 and 7 corroborates this statement. The fact remains, however, that whether we use many factors or a single factor for grouping, the pupils in any group are extremely heterogeneous with respect to reading abilities.

Other investigations not herein reported lead to similar conclusions. Homogeneity with respect to any quality or achievement is practically impossible. When the maximum degree of homogeneity in any subject group is desired, the most rational basis for grouping in that subject is achievement in that subject. If, for example, three ability groups in reading are to be formed, those pupils whose scores fall within the upper 25 per cent may be placed in the highest group; those whose scores fall within the lower 25 per cent, in the lowest group. This procedure, however, would ensure no greater perfection in grouping than is the reliability of the measurements employed. Even with a coefficient of reliability of 0.85 or 0.90 a very considerable number of pupils would need to be reclassified every time a different form of the same reading test was used. Add to this the fact that reading ability as measured by any one of the standardized tests is only a part of total English ability and we can readily understand how complex if not impossible is the problem of securing homogeneity for a single subject. Furthermore, variable achievement from subject to subject renders general ability grouping of pupils ineffective.

In conclusion, we may say that whatever the scholastic basis for grouping may be, there still remain innumerable qualities of personality, even more important than subject matter achievement, which must be taken into account in all our educational methods and procedures. These add to the complexity of homogeneous grouping, rendering its realization all but impossible. This, perhaps, is a partial answer to the question, How homogeneous is a "homogeneous group"?

Progress of Aviation Education in California

Provision of a technical ground school course in aviation for students in all secondary schools in California is expected to be made by the California Curriculum Commission, according to Vierling Kersey, state superintendent of public instruction.

A subcommittee of the California Advisory Committee has been engaged in the preparation of a technical course to be submitted to the committee, which, in turn, will make recommendations to the curriculum commission.

Recent Tendencies in School Equipment Design*

This article calls attention to the fact that a definite attempt is being made to have school furniture and equipment conform to the newest educational principles

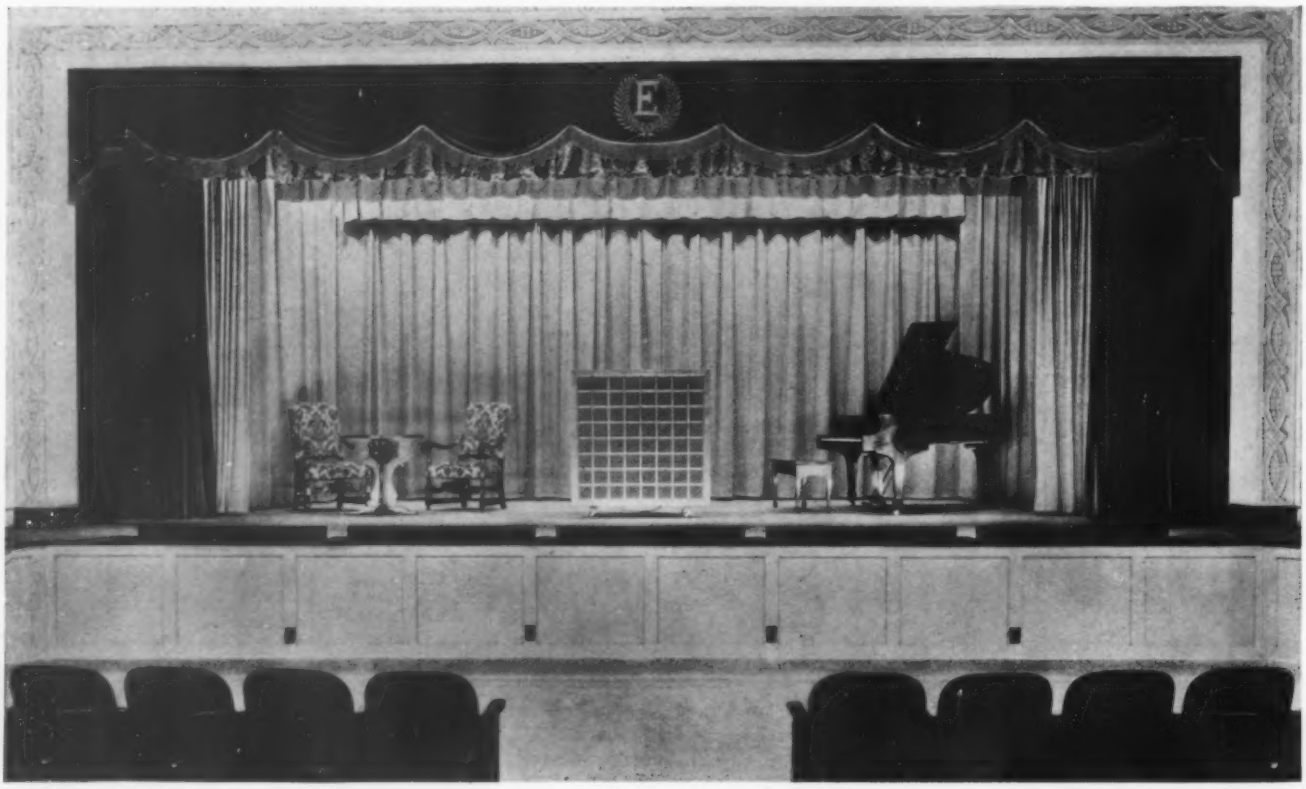
By JOHN A. SEXSON, Superintendent of Schools, Pasadena, Calif.

THE attention of superintendents has been called to the fact that scientific procedures have been followed in the study of the school furniture problem. The results of these experiments and the conclusions to be drawn from them are available. To what extent these studies will be received by the profession and by the school goods manufacturers as conclusive is another question.

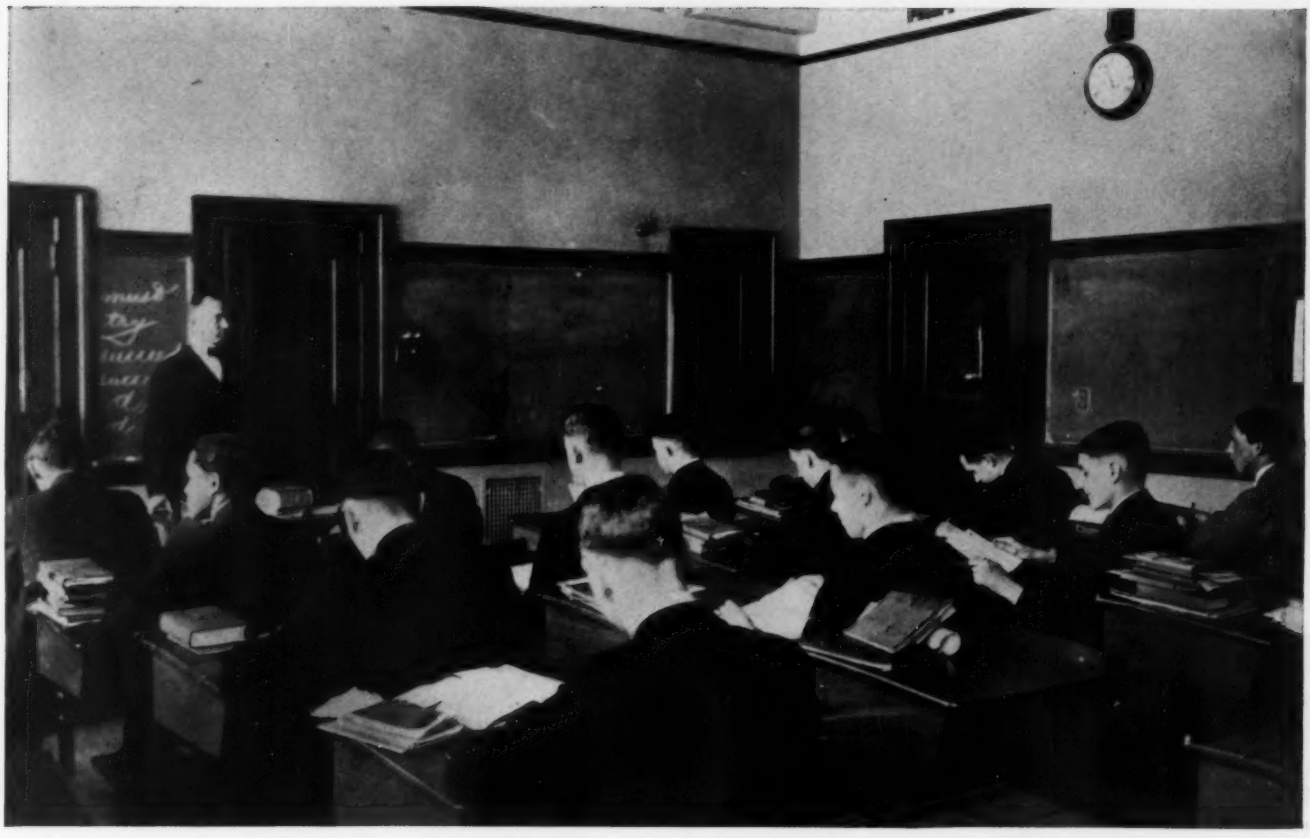
Recent developments in instructional school equipment: Reference should now be made to another type of experimentation that has gone forward recently in the field of school equipment. This experimentation is best represented by the work done by Dr. Ben D. Wood, Columbia University, and Dr. Frank N. Freeman, University of Chicago, and pertains to the problem of motion pictures in the classroom. In a study published by Houghton Mifflin Company in 1929, these authors describe an experiment on measuring the value of motion picture equipment as a supplementary aid in classroom instruction.

Here again under the best possible conditions for research and study, two impartial persons of professional standing and reputation, whose opinions with reference to educational problems are respected by all who know them, present a fine study in the field of developing an entirely new kind and type of instructional equipment. These educators from two of the leading institutions in teacher training in the country, aided by cooperating public school systems throughout the

*The first part of this article appeared in the September issue of The Nation's Schools.



The auditorium in the Centralized High School, Waterville, N. Y., is equipped with an amplifier that makes it possible to hear the speaker's voice all over the hall.



A time clock is a great aid in ensuring promptness in class attendance for these high school boys.

nation, and with the full support and cooperation of the manufacturers of school goods, have pointed out all of the steps that have been taken incidental to a careful appraisal of the new type and kind of instructional equipment.

There are not found here such conclusions as might be expected if this experiment had gone forward under the direction of those interested in the sale of a certain type of equipment. The publication presents a disinterested study of the whole problem with a summary of the conclusions arrived at as a result of studies that Doctor Wood and Doctor Freeman were able to complete, as well as a list of the problems yet unsolved that they felt should be answered for the final word with reference to this equipment. One reads in the summary of these investigators these striking statements:

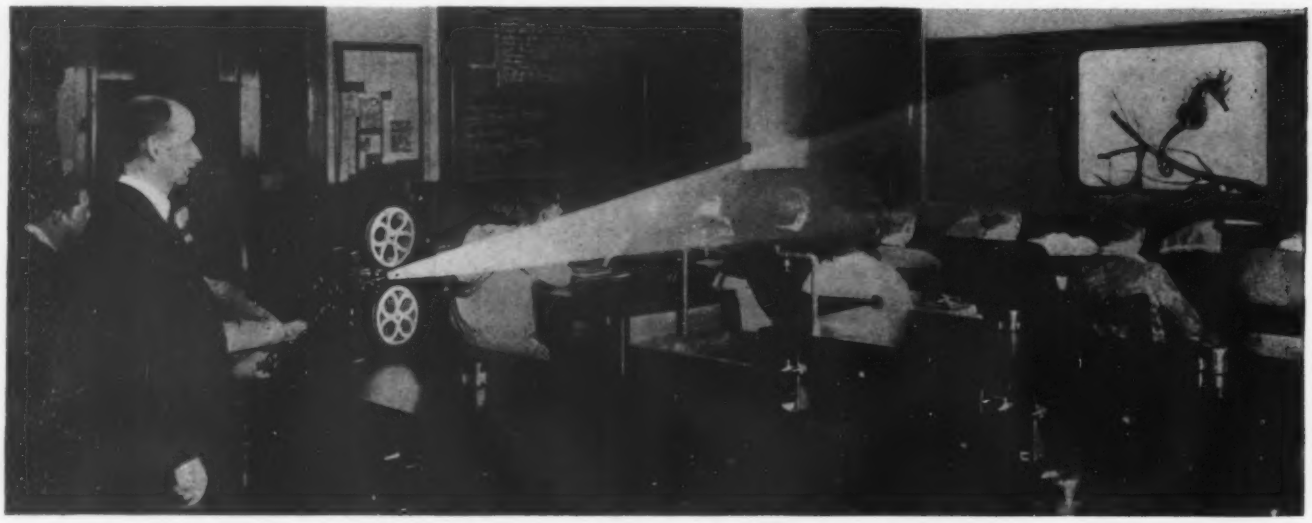
"The first and most immediate aim of the pupil's education is to make him acquainted with the world about him. He first has to discover the characteristics of the concrete objects of the physical world. This education may be called immediate or direct education. The second and equally important function is to enable the pupil to derive from his direct experience general or abstract ideas and, through reflection and reasoning, to search for and acquire explanatory principles which illuminate his direct or concrete experience. This may be called the indirect phase of education. Both phases are important and neither one is complete without the other.

"It is natural, then, that the film should appear to be most effective when tests measure the fullness and clearness of the pupil's concrete ideas.

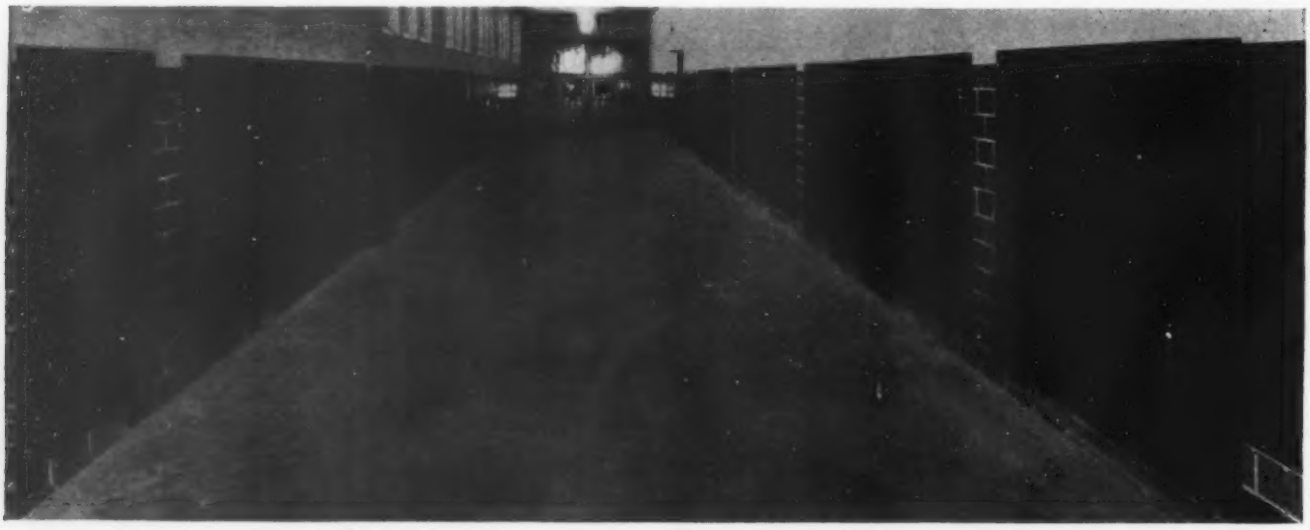
"The foregoing discussion indicates that the film should devote itself primarily to enabling the pupils to get clear-cut and correct notions of the physical aspect of the world. This is its immediate function.

"The material that is to be included in the film should be selected with this in view. The ultimate purpose of securing a clear-cut, concrete idea, of course, is to promote exactness and soundness in thinking. The material which is presented to the pupil, then, should be that material that is necessary in order to furnish him with this foundation. The selection of material, of course, and the manner and context in which it is presented, must be determined by the ultimate purpose. This does not mean, however, that an attempt should be made to distort the films from their natural purpose and make them into a means of teaching abstractions directly. Mankind has invented an instrument of abstract thought which is vastly superior to the use of objects, or of pictures of objects. This instrument is language. It is not the business of films to supplant lan-

This room in a school in St. Clair Shores, Mich., is well ventilated and well lighted by means of steel projected windows.



All up-to-date schools should be equipped with moving picture machines. A class in science is here shown benefiting by visual instruction.

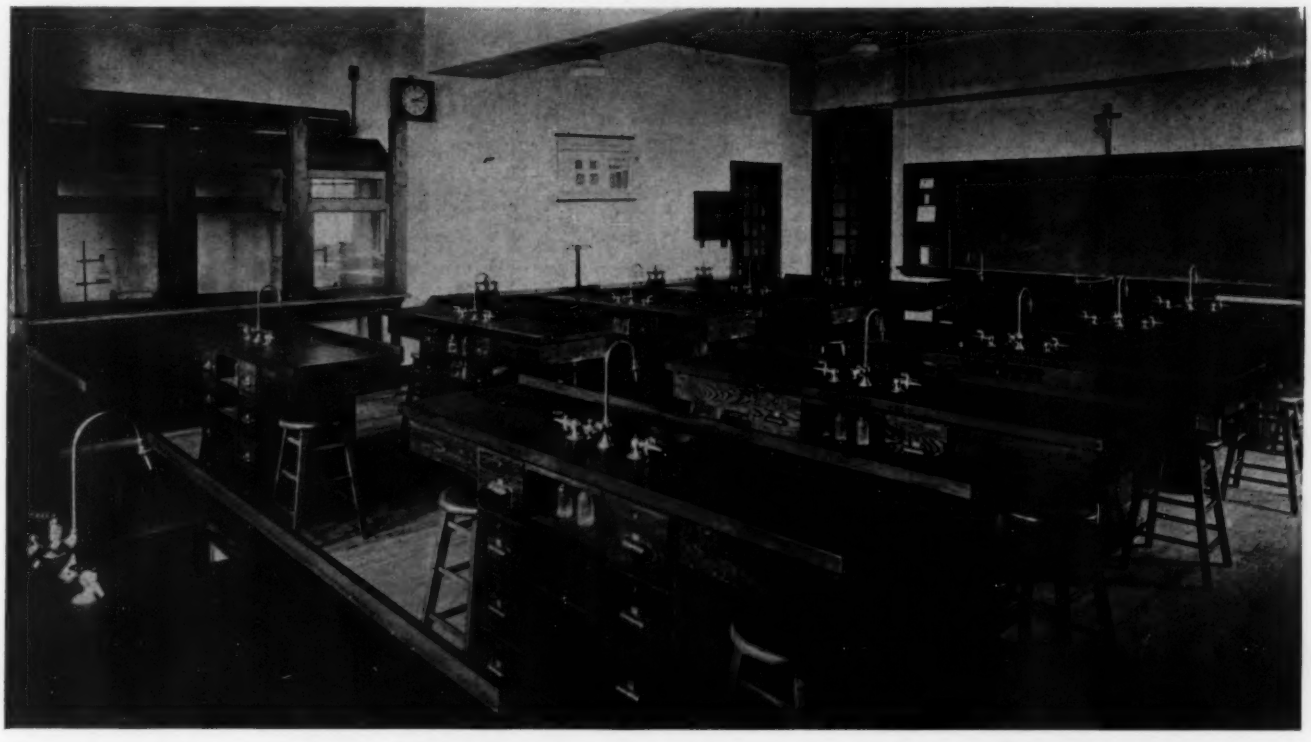


A corridor in the Wichita High School, Wichita, Kan., demonstrates how convenient metal lockers have been installed at a great saving of space.

guage. It is their business to give the pupils such direct experience as will give language rich and clear-cut meaning."

Then again we find this list of problems for further research:

1. The pedagogical structure of a film or of a series of films; the organization of the film into the lesson plans of the course of study and into the classroom exercise.
2. Length, frequency and character of subtitles in various types of films for children of various age and grade groups.
3. The place of animated diagrams in various fields of study.
4. Adaptation of the films to ages and groups.



Up-to-date laboratory equipment has been provided for the pupils of the Muldoon School for Girls, Rockford, Ill.

5. Adaptation of a given film to various courses of study.
6. Combination of slides and other visual media with motion pictures.
7. Repeated showing of the same film and of its parts.
8. Time allotments to various types of films and film sequences.

"An important administrative problem," says the study, "is already looming large before many school superintendents and principals and deserves immediate attention. It is the organization, administration, housing and care of the film library of the individual school and of the town or city-wide school system."

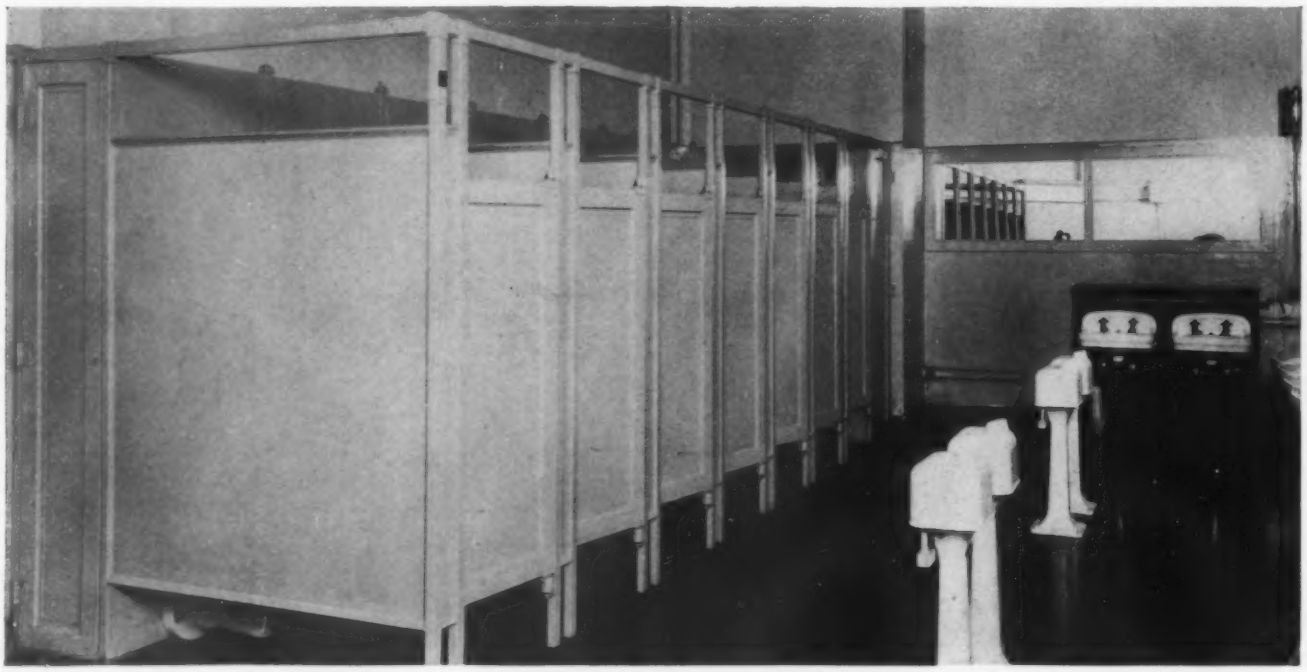
A still different phase of development with reference to modern school equipment is represented by movements such as that described by Dr. J. W. Baldwin, Teachers College, Columbia University, in a Department of Education publication. Doctor Baldwin gives a detailed account of recent developments in setting up, equipping and furnishing the social studies laboratory. The laboratory with its characteristic equipment, modified to suit other subject matter, has been extended into such fields as the social studies. Recent changes in the content and method in the social studies field have created a demand for special techniques and for their proper presentation. In other words, there is justification for the criticism which has been directed toward secondary and college teaching in such fields as social science for having been too greatly lacking in the special techniques essential to significant learning therein. At the same time, there must not be overlooked the recent developments under which teachers in these subjects have developed new methods and techniques and the necessary equipment that goes with them.

Credit for introducing the laboratory method into social science is ascribed to Louise Kidder, who, writing in the *University High School Journal*, describes a social science laboratory and applies it to the work room of the seventh and eighth grade history and geography classes.

All of us are familiar with the increasing amount of work in social studies centered about diagrams, models, maps, pictures, clippings, charts, graphs, statistics, mottoes, slogans and posters. Doctor Baldwin traces the growth and

development of this random procedure through the early years up to the present time. He makes an itemized checking list of the equipment essential to a social science laboratory which would compare favorably with the physics, chemistry or biology laboratories. One cannot read this study or visualize such a laboratory without an increasing respect for the type of teaching likely to result from placing such equipment at the disposal of a wide-awake teacher. Similar laboratories also exist for the teaching of modern language.

All of us, schoolmen and laymen alike, are impressed with the recent developments in the elementary school wherein the furniture and equipment characteristic of these classrooms take on much more than formerly the character of the workshop or of the laboratory.



Metal toilet compartments provide the utmost in sanitation and privacy for school pupils.

Recent developments designed to produce equipment at reduced costs: It would be unfair to the manufacturers of school goods if acknowledgment were not made of the efforts they have put forth to serve the needs of the schools adequately at costs that are reasonable when compared to the costs incidental to the producing of equipment for utilization in other activities. One example of this sort of cooperation between manufacturers must suffice and is perhaps the best example of cooperative effort to reduce costs and to produce more usable and more acceptable furniture. This is the report of the General Conference of the Manufacturers' Organization with reference to the color of school equipment, adopted at a convention in Chicago, June 28, 1929. The report reads that in accordance with the unanimous action of the general conference of producers, distributors and users of school furniture, the Department of Commerce submits for the approval of the industry the following simplification program for color for stock varieties of wooden school furniture:

"This recommendation applies to school seating (pupils' desks), teachers' desks, movable desks, recitation seats, chairs, tablet arm chairs, tables, typewriter tables, library furniture, filing cabinets, bookcases, kindergarten tables and chairs and laboratory furniture.

"The color for stock varieties of school furniture shall be known as school furniture brown. The industry has fixed light and dark limits of shades within this color. While any shade within these limits will be considered as conforming with the requirements for school furniture brown, it is understood that every effort will be made to conform as nearly as possible to the selected median shade.

"Master color blocks selected by the industry as representing the permissible range of shades of this color shall be used in the preparation of duplicate color blocks for matching in manufacturing and for sales purposes.

"Duplicate color blocks supplied by the industry in accordance with the above will be labeled as follows: 'The color of this block conforms to Simplified Practice Recommendation Bill—30, U. S. Department of Commerce.' "

The agreement of the manufacturers to adopt this standardized program with reference to color arises from the fact that no one manufacturer makes a complete line of equipment for any build-

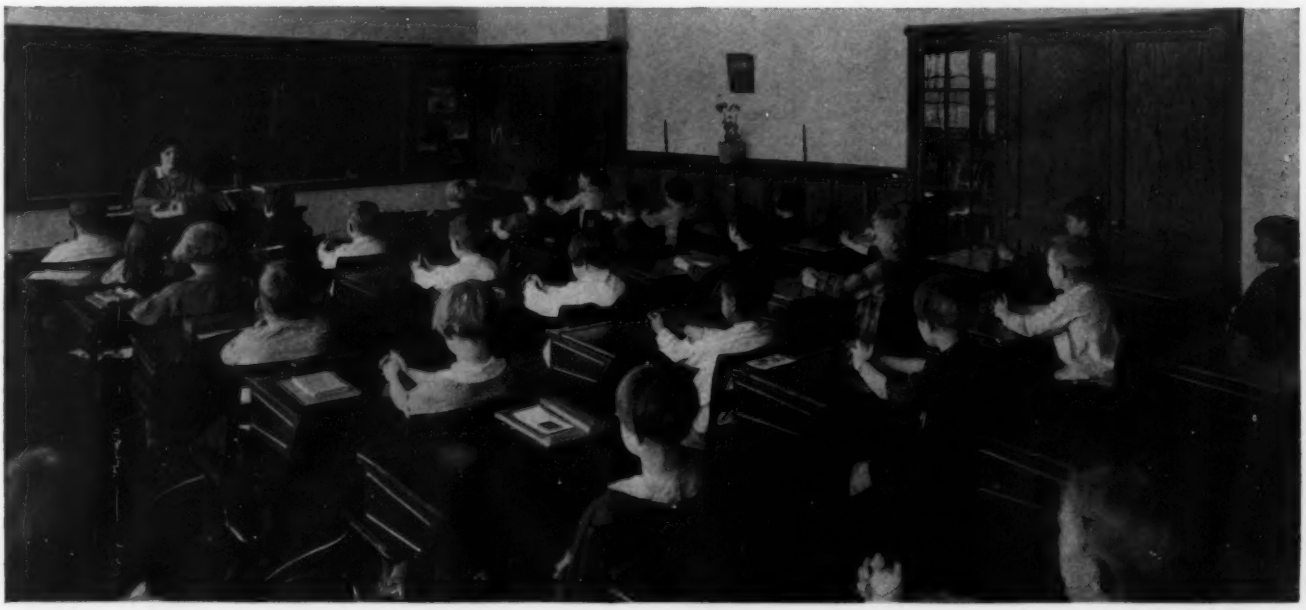
Classroom instruction in the grammar school can be made real and vital if moving pictures are used as an adjunct to teaching in various subjects.

ing or schoolroom and it is therefore necessary for the consumer to select his equipment from different manufacturers. Since color harmony in school equipment is desirable, the buyer could not get this result with all the manufacturers using different color finishes. It is necessary, therefore, for manufacturers who desire to cooperate with the consumer in matching furniture as to color, to paint the furniture they supply in accordance with some sample selected by the customer.

This gives the following results: Production and selling costs are increased; production and service are slowed up; inventory is increased due to duplication of colors; too many jobs are special.

It was the belief of the manufacturers in their conference that any agreement as to standard finishes would reduce the demand for special finishes, simplify the stocking of school equipment and result in a smaller inventory and a quicker and more satisfactory delivery.

It is believed that procedures similar to this will ultimately extend to a smaller standard of program for other items of school equipment such as lockers and map cases. This sort of procedure would immediately tend to transform our schoolrooms from their present unsightly, inharmonious and undecorative condition to one in which the schoolhouse would be characterized by that same



Comfortable and healthful seating arrangements have been provided in this classroom. The chair is attached to the desk by a metal bar, and the unit is movable.

good taste, that same fine feeling of harmony and of appropriateness to be found in the home or the well equipped office. This is unquestionably a development in the right direction.

It might be well to call attention to the criticism of the American public school system to those who feel that we are going too far in this matter of school equipment and that too much money is being expended in this field. Many of us feel that there are many devices and gewgaws passing under the name of school furniture and equipment that are presumed to contribute to the effectiveness of instruction, the value of which is extremely doubtful.

Valueless Equipment Formerly Sold

All of us are familiar with the practice common a few decades ago of selling the gullible boards of education expensive contraptions under the guise of school equipment, which we now know were valueless and which were designed by greedy and avaricious persons purely as a means of personal profit.

There is ample evidence that the manufacturers, as well as the school people, are moving steadily toward the elimination of waste resulting from this sort of practice. Perhaps we have not gone far enough with the selection possible under such conditions, a selection so graphically portrayed in the exhibits that accompany the N. E. A. conventions. Superintendents might profitably devote considerable time to examining and perhaps checking off their equipment lists types of equipment and furniture that are no longer usable, that are no longer consistent with our new policies and philosophies of education and that contribute in no worth while way to child experience.

How to Keep Schools Up to Date

There is no doubt but that we should give conscientious study to the problem of financing new furniture and equipment essential to the changing educational program. This provides for replacement and for discarding obsolete equipment. At the present time there are not adequate studies in this field nor are there sufficient examples of successful experience to which inquiring superintendents may turn.

It may not be amiss to suggest to the manufacturers and distributors of school goods that investigations and studies in this field, together with suggestions as to a proper financial and budgetary procedure looking toward a defensible policy of keeping our schools up to date in the matter of furniture and equipment, might be a most significant contribution to educational progress.

America Asked to Join International Commercial Education Society

E. M. Boissevain, president, International Society for Commercial Education, and a member of the Amsterdam Chamber of Commerce, was recently presented to President Hoover by L. G. Van Hoorn, counselor of The Netherlands legation.

Mr. Boissevain said after the conference that he outlined briefly to the President plans for organizing a division of the society in the United States. Through the society it is proposed to increase the interest of young men in fitting themselves for a commercial career instead of going into business without foundation or training.

The International Society aims to develop commercial education in all countries, by the following means: to group the existing national associations and other institutions, private or public, which are interested in the development of business education; to organize international meetings and congresses; to arrange for international courses for commercial expansion and the study of languages; to discuss questions of general interests bearing on business education; to institute a central information office; to issue a review and other publications on commercial education; to distribute to newspapers and periodicals information regarding the development of business education in various countries.

School Journeys in Britain

A practice in use in the English schools that could well be emulated by schools in America is that of supplementing the required studies with educational journeys to all parts of the kingdom, according to the *Pennsylvania School Journal.* For instance, a part of the course in English literature consists of journeys to the Shakespeare country, Dickens and Tennyson rambles and visits to the manuscript section of the British Museum.

Journeys to shrines, to museums, to Westminster Abbey and to scenes marking transitions and changes are founts of inspiration in history teaching. As a result of outdoor instruction, British children know thoroughly the common trees, flowers, birds, insects and the wild life of their respective localities.

School journeys have had for many years an established place in the educational system of London. Because of their success in London they have since spread to all sections of the kingdom. School authorities in London have subsidized the journeys, and grants are annually made so that the poorest children in the city have the advantage of this type of instruction.

When Is a Superintendent a Success?

When he is active, not passive; when he chooses his goals with judgment and systematically pursues them; when he realizes that true success demands continuous effort, growth and progress

By FRANK CODY, Superintendent, Detroit Public Schools

IT IS the ambition of every superintendent worthy of the name to leave a school system better than he finds it. He tries to make his administration count in terms of positive improvement. The easy way to do this is, of course, to drift with the tide, to aid somewhat those who are trying to bring about improvements and to resist mildly those whose selfish interests lead them to obstruct progress.

This is the plan many superintendents follow, but the type of superintendent I have in mind will not be satisfied with a mere drifting policy. He is an intelligent red-blooded man. In the old days he would have been a great warrior and leader, and his fighting, mastering instincts make him desire to take hold aggressively of the school situation in which he finds himself and gently lead it in the way it should go. No mere drifting will satisfy him; he is out for progress and achievement and is prepared to go after it systematically.

A Wide Field of Service

There are three kinds of superintendents—those who try and fail; those who drift with the tide, and those who try and win. I suppose if you could examine the secret places in the hearts of the superintendents of this country you would find in every one of them a pretty definite realization of what the superintendency might become in our American life, and an equally definite determination to make his administration live up to its opportunities. You would find also that practically every superintendent had at one time or another made the effort to achieve his ambition. But in very many, I'm afraid you would find ambition chained in a secret dungeon and a sign on the door "Danger, Keep Out." These are the men who tried and failed. Their mottoes are "Safety First," and "Never Again." Fortunately, however, every now and then a superintendent tries and succeeds. Then all the young administrators take heart and determine that they, too, will achieve success.

Success, however, calls for more than mere determination and a fighting spirit. The superintendency is a man-sized job. The problems that come to the superintendent's desk are many-sided and complex. The moment he raises his head above the average level, forces attack him from every angle, from within as well as from without his organization. Success does not come by chance, but through intelligent planning. The kind of success that counts is success in the situation in which the other fellow failed.

Do Not Get Lost in Maze of Details

There are four big items in my formula for success. These are:

Have a policy.
Build an organization around the policy.
Continuously appraise your own success.
Keep your channels of communication not only open, but working.

Policy, Organization, Appraisal, Publicity—I shall discuss each of these briefly.

I suppose the greatest danger that besets the ambitious superintendent is superficiality. The pressure of administrative work is tremendous. Every minute persons and problems pour in, each seemingly of vital importance, each demanding immediate attention. Many superintendents are such slaves to routine tasks, are so busy administering, they never have time to find out what it's all about. Do you remember that pleasant little game we used to play? When you were "it," they blindfolded you and told you to catch whoever hit you. Some one would thump you on one side and just as you started after him, some one else would thump you on the other side, so that you would leave off chasing the first boy and start after the second, and the next thump always came from the direction from which you least expected it. That's just the way it is with the superintendent. If he allows himself to be blindfolded by his many duties, it will be just one thump after another.

The proper thing to do is, of course, to make a survey of the situation, select a definite practical goal, achieve that goal, then select another and repeat the process. By this I do not mean to imply that the superintendent is the policy making body. That is the function of the board of education. The responsibility for furnishing cre-

ative leadership to the board with respect to desirable policies is a vital part of the superintendent's job.

For success a man must use judgment in selecting his goals. In even the best school system there are hundreds of things in need of improvement but they are are not all equally attainable. The superintendent is the agent of others and must work through others. Aggressiveness and fighting blood are largely a liability, not an asset, unless science is combined with fighting. The superintendent is responsible to his board and to the citizens. A superintendent must study his board and his public. His selection must be in terms of their desire. A great many persons do not realize that even morons know when they are unhappy. Every public and every board has emotions and dissatisfactions about their school system. It is the business of the superintendent to keep his fingers on the emotional pulse of his community, to diagnose the causes of its emotional disturbance and to provide the proper remedies.

Success cannot be won by fighting for any idealistic scheme, no matter how hard the superintendent fights. Idealism is all right in its place, but idealism never made a man successful by itself. That superintendent will be counted most successful who knows, just about one jump ahead of the public itself, what is causing dissatisfaction, who judiciously stirs up the growing dissatisfaction by systematic education and direction until it eventuates in a clear formulation of a problem, and who then comes forward with an intelligent practical solution of the problem which makes everybody happy.

Cut Your Pattern According to Your Cloth

I want to refer again to idealism. The superintendent must be a practical man. As I have indicated, he must be continually achieving what the public wants. These statements might be given a Machiavellian interpretation, but I do not mean them in that sense. It is foolish, however, to advocate a building program that the wealth and temper of the community cannot possibly finance. It is suicide to try to introduce generally methods of teaching or courses of study that call for a type of teaching ability not represented in the teaching force by whom the new methods must be administered. The superintendent must be primarily a teacher. His pupils are the public and the board on one hand, and his staff and teaching corps on the other. He must have a high vision of what education might become and a comprehensive idealistic conception of the direction in which the road to progress leads. He must lay out for himself a long term educational program of the highest type to serve as a basis for all his decisions and judgments. There must be no uncertainty in his thinking, no cheapness in his planning. He must be professionally minded, a man with a mission.

But of all these things the superintendent must be chiefly for himself. In his daily work, in his immediate plans and policies he must be practical; he must deal with the attainable, the immediate, the real. Idealism and realism must both dominate his every action. He must have a policy and be known for his policy, but it is extremely inadvisable that his whole policy be continually exposed to view. The prettiest girl makes an ugly skeleton, yet she would not amount to much as a pretty girl if she didn't have a skeleton and a good one, too. The successful superintendent clothes the skeleton of his idealism with a pleasing exterior of warm living daily accomplishments that satisfy. The first element of his success is a definite practical well matured policy, a series of well defined goals toward which he steadily moves.

One-Man Success No Longer Possible

The second important item leading to success is organization. The superintendent is a singularly impotent man. If he tries to do everything himself, he is soon swamped by a mass of detail that is greater than any man can possibly handle. If he attempts to work through others his success is immediately conditioned by all the weaknesses and failures of human nature. The truth of the matter is that our civilization has grown to such levels of complexity that one-man success is no longer possible. In business, in politics, in social activities, everywhere, it is the successful organization that gets ahead, not the successful individual.

The successful superintendent must build up an organization around his policy and lose himself so completely in the organization that it is the organization that succeeds, not the superintendent. The superintendent must be one among many specialists, each contributing from his special ability to the functioning of the whole. For success there must be unity in the organization, a proper balance of part with part. This unity is the responsibility of the superintendent to create and to maintain. He cannot be a specialist in every line; his contribution is managerial ability. He must choose men wisely and set each man to work on the task that he can do best. It is the superintendent's part to provide favorable conditions that will make it possible to delegate authority, to define and fix responsibility, to coordinate

activity and to recognize and to reward merit.

It sounds simple; in reality it is the most difficult of all tasks. The world is coming more and more to recognize this fact. Much as it values expert service, it values and pays more highly in every field the man whose only task is to bind together into a smoothly running, cooperative organization men of many different temperaments and abilities. From this point of view, that superintendent is most successful who does the least actual work himself. He keeps himself free from all confining tedious details that he may have adequate leisure time to think, to plan and to direct. Those who do the actual work, however, are entitled to the rewards of that work and right here is the rock on which the plans of many a superintendent have been wrecked.

It is easy to delegate actual labor but it is also easy to appropriate the rewards of labor. Yet no man continues to put forth his best efforts who does not receive continuously the stimulus that comes from public recognition of success. The little superintendent is sure there is room for only one in the spotlight and he takes care to be that one. The big superintendent realizes that the bigger the individual units are, the greater the leader must be who can direct their efforts.

The little man is afraid of comparisons. The big man measures himself by the bigness of the men who accept his leadership. Accordingly, he develops, gives credit to, boasts of and protects every specialist in his organization. Perhaps just because he does not seek his own credit and glory, the public pays it back to him again fourfold—once for the worker's sake, once for the achievement's sake, once more for the success of the organization as a whole and once again for his own sake as the man whose managerial ability has brought it all about.

A Man Must Not Rest on His Laurels

The third element contributing to success is continuous appraisal. The superintendent who has a policy and who develops an organization is sure to achieve some measure of success and distinction. But this is not enough. No man can truly be counted successful unless he dies successful.

Superintendents are singularly subject to the disease that manifests itself in enlargement of the hat band. It is so easy to win a measure of success. The temptation is strong to celebrate a victory and consider the campaign over. True success, however, is not victory, but continuous achievement, growth and progress. When once difficulties have been overcome and things begin to come our way, we tend to grow careless. Our intentions are good, our aims are high and our efforts are unfailing. We need to realize, however, that each new solution brings a new train of problems in its wake.

In scientific administration, it is commonplace knowledge to-day that plans must be based on facts. "Get the facts" we are warned on every hand. Yet it is not enough to get the facts before planning. We must get the facts after executive action also. We must make sure our actions have actually accomplished what we expected them to accomplish. We must criticize ourselves continuously and severely if we would escape the criticism of others. To-day no superintendent can hope to achieve continuing success without the aid of many research workers to test and measure in every field. Open-mindedness, willingness to modify plans on the basis of evidence, continuous self-appraisal are as essential to continuing success as policy and organization are to initial achievement.

Right and Wrong Kinds of Publicity

The final item I wish to discuss is informational service. Like so many other things, there is a right and a wrong kind of publicity. Publicity to many superintendents means singing your own praise in public and getting in the front page headlines. That is not the type of publicity to which I refer. Perhaps "communication" has better connotations for my purpose than "publicity." I mean that for success there must be many channels for the transmission of important information both to the superintendent and from him. He must know what both the public and his organization are or what is more important, what they are feeling. It is equally important that both the public and the organization know something of what the superintendent is thinking and feeling. A full measure of success cannot be achieved without confidence, and confidence is born of shared thoughts and emotions.

The superintendent must study the public press for current criticisms. He must be in touch with every social and political movement and with the leaders of all such movements. Most of them, sooner or later, mainly sooner, react on school affairs. However, this relationship must not be a passive observational affair. The superintendent must embrace every opportunity through the press and other public channels as well as through private individuals to educate the public with regard to their schools and to win support for his plans.

Precisely the same type of statement may be made about communication within his own organization. The superintendent should take pains

to interpret his policy to his staff and teachers as well as to the public. He should pass on to them as well as to the public detailed information with regard to every victory won, every achievement gained. In other words, the superintendent should see himself and his associates as members of a living organism. He should appreciate the fact that full and free communication both in and out is absolutely essential to health and growth. He should deliberately encourage and provide channels for discussion. He should avail himself to the utmost of the talent in the ranks of his organization and seek to mobilize systematically all the brain power in his community.

Policy, organization, appraisal and publicity! How easy they are to say! How difficult to achieve! Yet these are the basic elements of continuing success. Perhaps it may give point to this discussion if I attempt to make application of these general principles to a specific problem.

One of the important aspects of progress is the upgrading of teachers, the improvement of instruction. A survey at the beginning of my administration at Detroit during the war period showed a normal school with a dwindling attendance, a shortage of teachers, many special supervisors, each going his own way and running to the superintendent with many details about the work of his department, a supervisor of instructional research using tests and scales to appraise the results of teaching independently of the supervisors, a school system made up of many separate and separated units, with few common purposes or goals. Yet instruction is the basic activity for which all the rest of the school system exists.

How Detroit Schools Were Organized

It was evident that unity was the greatest immediate need. The facts regarding lack of unity and organization were gathered and presented to my staff, the board and the public. The need for organization became increasingly apparent. Soon by board action, the elementary, intermediate, high and collegiate policies were defined and organizations to carry them out established. The new organizations, however, called for new courses of study, new methods of work and more intelligent teaching. Accordingly, the instructional forces of the city were united as the administrative forces had been.

A department of instruction was created consisting of three divisions—supervision, teacher training and instructional research. The duties of each division were clearly defined and the three were coordinated by the appointment of a director to bring all three into working relations. The normal school was changed to a teachers' college and power was secured for the state legislature to grant degrees. The supervisors were organized into a supervisory council, meeting weekly to discuss their common affairs. The supervisors and teachers' college faculty were thus brought into close relationship and courses for teachers in service offered to meet the needs of the city. The teachers' college has thus become a center for the training of demonstration teachers versed in the new policies and methods as well as a center for the continued training of teachers in service. All the wisdom of the supervisors and all their acquaintance with conditions throughout the city were capitalized for the training of teachers, new and old, and our program of progress began to move forward smoothly.

Team Work Will Win the Day

In similar fashion the union of instructional research with the other two instructional divisions has been of much value to all concerned. The supervisors became active research agents using the results of tests to direct and improve their work. The teachers in training became experimentalists, actively contributing to the solution of the problems of the city and receiving with their training the results of the experimental investigations.

The enrollment in our afternoon and evening classes at teachers' college has risen to nearly 50 per cent of our 8,000 teachers. In printed bulletins, in special mimeographed notes, by meetings and through the public press, the entire system is kept informed of the progress of all creative work. Its volume and its importance are both steadily increasing. This summer from present indication Detroit will send larger delegations to university summer schools than ever before, while to our own teachers' college summer session are being attracted a larger number of outsiders who wish to study at first hand the things we are doing.

These manifold and far-reaching results are not the work of any one individual, least of all are they the work of the superintendent. Policies, organization, appraisal and publicity account for them all. The superintendent is proud of having played a part in bringing about these favorable conditions, but to-day Detroit illustrates completely and clearly the old adage, "In union there is strength." What Detroit has done any city can do that will follow the same methods. Here is the heart of the matter so far as the superintendent is concerned. Responsibility for the methods of administration adopted rests largely in his hands.

Planning the Business Education Program

Those in charge of the organization, administration and supervision of commercial education in large or small schools will find many valuable suggestions in this study

By JESSIE GRAHAM, M.A., Franklin High School, Los Angeles

IN EVERY school system, some one person is responsible for the program of commercial education. In small schools, the principal of the high school takes the responsibility; in large schools, there is a chairman or head of department; in large cities, a director of commercial education with subject supervisors, is the leader. In any event, certain duties and responsibilities are inherent in every situation in which a program of commercial education is being conducted, and regardless of the title of the person or persons performing the duties, a study of them is of value to commercial educators.

In recent years, many studies in the field of commercial education have been made—1,155 in typewriting alone[1]—but few investigations relating to problems of organization, administration and supervision of commercial education have been reported. As commercial education advances, it will be increasingly important for it to have wise leadership inspired by a foundation of studies along the line of its organization, administration and supervision. The present investigation is made for the purpose of collecting the available material on this subject and putting it into such form that it will be of use to those who organize, administer and supervise programs of commercial education in our country's schools.

The Los Angeles high school pupils are studying machine bookkeeping.

There are two major sources of material for a study of this subject: textbooks and supplementary material used in courses in organization, administration and supervision of commercial education in commercial teacher training institutions; the literature of the entire field of commercial education. The material used in courses in organization, administration and supervision of commercial education represents the thought and experiences of persons engaged in commercial teacher training and is thus worthy of consideration. It is also necessary to make a survey of the literature of the entire field in order to acquaint administrators and supervisors with all phases of the broad field of commercial education and to collect material useful to them.

TOPICS TREATED IN COURSES IN ORGANIZATION, ADMINISTRATION AND SUPERVISION OF COMMERCIAL EDUCATION

Topic	*Frequency of Mention*
Curriculum Making in Commercial Education	11
History of Commercial Education	6
Foundation and Principles of Commercial Education	4
Objectives and Aims of Commercial Education	4
Teacher Training, Selection and Rating	4
Present Status and Modern Tendencies in Commercial Education	4
Organization and Administration of Commercial Education	3
Equipment	3
Content of Courses and Methods of Teaching	3
Other Types of Commercial Education	2
Use of Surveys in Commercial Education	2
What Business Wants of Commercial Education	2
Selection of Textbooks	2
Improvement of Instruction and Causes of Teacher Failure	2
Extra-Curricular Activities	1
Modern Agencies Offering Commercial Work	1
State and City Supervision	1
Tests and Measurements in Commercial Education	1
Discipline in Commercial Education	1
Publicity for the Commercial Department	1
Continuous Program of Activities for Commercial Education Administration	1
Guidance	1
Relation of Course to Community Needs	1
Total	61

In a recent study[2] of commercial teacher training in 685 degree granting institutions of the United States, it was found that twenty institutions offer courses dealing with organization, administration and supervision of commercial education. An inquiry was sent to each of these institutions asking for the syllabus used in the course, the topics treated, the name of the textbook and the supplementary material used. Replies were received from all of the institutions offering such courses. As a result of this inquiry, lists of topics, textbooks and supplementary material were compiled.

In addition to the textbooks and supplementary material listed as the result of the inquiry, all available books, pamphlets and periodical literature on the subject of commercial education were reviewed with a view to the selection and use of material applicable to commercial education.

Twenty-three topics covering a wide range of subject matter are treated in courses in commercial education. These are set forth in the accompanying table.

What Is Required of Supervisors

Their wide variety shows that in the opinion of the leaders in commercial teacher training, those who organize, administer and supervise commercial education must be conversant with developments in the entire field. The few times certain topics were mentioned is probably due to the fact that some replies were more detailed than others. The topics mentioned by only one or two institutions are doubtless treated under general headings in the other courses.

While the available material covering all of these topics has been compiled, it is the purpose of this paper to present only that which bears directly upon organization, administration and supervision. The following paragraphs present these findings.

In organizing a program of commercial education, it is necessary to apply the principles of education to a definite situation in conformity with the policies of the federal, state, city and individual high school authorities. Seven duties of organization[3] which should be attended to before the opening of school are described here.

1. Preparing the commercial curriculum: Keeping in mind the "core" curriculum which is required of all high school graduates of state or city, the organizer may make all possible adjustments to his local situation. The commercial curriculum first endeavors to fulfill the cardinal objectives of education, second, to lay a broad foundation of business knowledge and third, to provide some usable, specialized skill suited to the individual abilities of the pupil. A local business survey aids in fulfilling efficiently the vocational aim of commercial education.

2. Preparing the semester program: In large

The work of the commercial department of Franklin High School, Los Angeles, is centralized in the beautiful administration building.

schools, a master program is prepared in order to obviate conflicts in subjects required of pupils of certain grades. The number of classes in each subject may be estimated from a report of the number of pupils in each class, of those coming to the school from other sources and of past enrollment. A hurriedly made program means more work in the long run, since it is necessary to make many adjustments so that pupils may take required subjects and classes may be kept uniform in size.

3. Teacher assignments: Teacher interests and abilities should be consulted in assignment work. It is essential that their certification be consulted, those with special credentials being restricted as to the subjects they may teach. Teacher load is influenced by the number of preparations that have to be made for the work of each day.

4. Scheduling room locations: Here, again, the wishes of the teachers should be consulted. Teachers dislike to move from room to room dur-

ing the day because of the inconvenience of using supplementary material.

5. Pupil enrollment and registration: It will be necessary to conform to the plan of enrollment in use in the particular school for which the plan is made. Los Angeles uses the plan of enrollment stations. The pupils enroll on a certain day, the teachers being stationed at designated places and the classes "closed" as certain limits are reached. Philadelphia sets aside certain days during which pupils do not report to the school, and the teachers make programs for individual pupils. Continuous tallies are kept and the teachers are notified of "full" classes. Some schools make several model programs and see to it that

The mode of teaching in this class in office practice in the commercial department of a high school is founded on business principles.

designated groups of their pupils copy them.

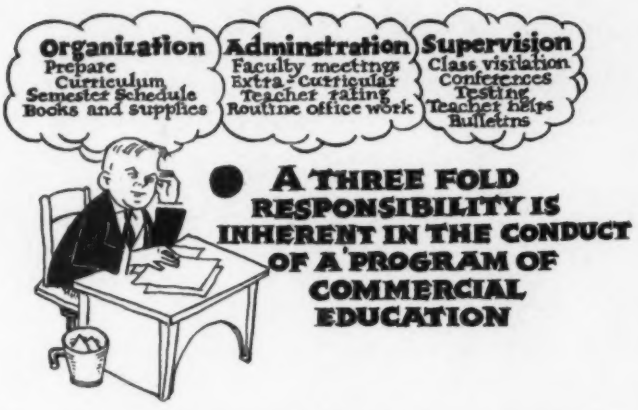
6. Providing and distributing supplies and texts: It will be necessary to delegate the ordering, distributing and keeping of supplies and textbooks to some one teacher or member of the office staff.

7. Organizing extra-curricular activities: Commercial education abounds with opportunities for extra-curricular activities, all of which have business phases to be handled by commercial pupils. Each teacher should be asked to supervise some extra-curricular activity. Since these activities are for the purpose of providing desirable experiences for the pupils, it is suggested that the pupils be allowed to bear as much responsibility as possible. The sponsor's chief duty is to see that work is delegated to individuals and that programs are carried forward in accordance with business principles.

Time spent in organization is wisely spent, since an efficiently organized school or department will relieve the administrator and supervisor of attention to many details, leaving him free to perform other necessary functions.

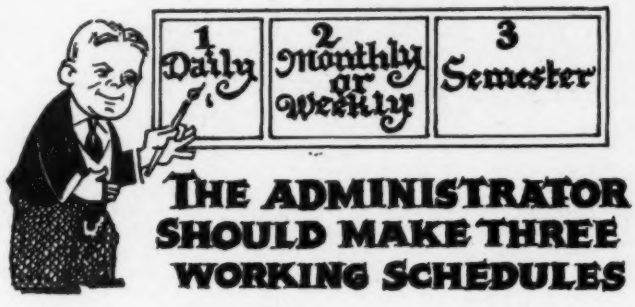
The administrator in charge of a program of commercial education is concerned with carrying out the policies of federal, state and local educational authorities in such a way that the curriculum he has set up will be of benefit in the lives of the pupils. To this end, he is concerned with such subjects as building space and equipment; vocational and educational guidance to make provision for individual differences; tests and measurements; placement of commercial graduates; training, selection and rating of teachers; professional organizations and current literature and research in commercial education. A detailed discussion of each of these topics is beyond the scope of this brief report. A complete study of the administration of commercial education would include an investigation of each of them.

The administration of the commercial department of a high school should be founded upon business principles.



It has been suggested that an organization chart is conducive to efficiency in administration.[3] Such a chart enables the department head to administer his department in the same manner as the department in a business concern is administered and to recognize his position in the entire scheme of the educational system.

After the chart has been prepared, the department head, in his desire to use efficient and businesslike methods, should list his duties. He should make three work schedules—daily, monthly and semester. A little forethought will result in the systematizing of many of his tasks and will assure a promptness in the making of required reports.



The administrator of a program of commercial education then is concerned with a philosophy of commercial education, the policies of superiors, the curriculum, physical equipment, pupil guidance, the administration of teachers' programs, the placement of graduates and contacts with business. He knows that all of these activities are for the benefit of the pupils through the improvement of instruction.

"Instruction is the most important activity taking place in the school. School supervision includes every means employed to make the work of the school more effective in the lives of the pupils in attendance."[4]

Under this broad definition, supervision includes such topics as content and method in various subjects; pupil guidance; provision for individual differences; tests and measurements; teacher rating and improvement. All of these are for the purpose of improving instruction.

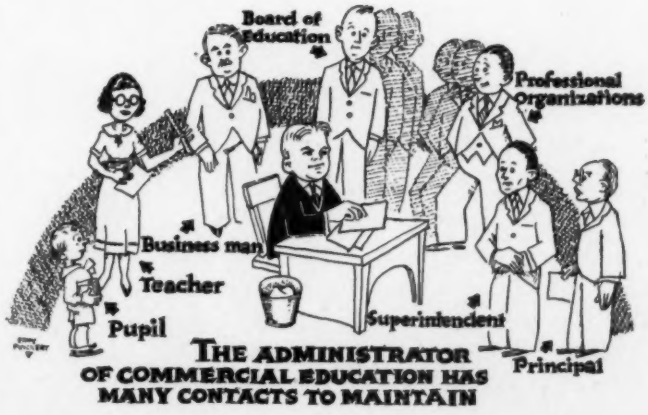
Supervision involves seven duties which are briefly discussed in the following paragraphs.

1. Class visitation: Arthur Gould,[5] assistant superintendent of schools, Los Angeles, lists the following eight points as those to be noted by the supervisor in classroom visitation: the physical condition of the room; the mechanics of handling the recitation; the preparation of lesson, linked with the preceding and following recitations; the relation between teacher and pupil activity; discipline; the teacher's voice; the teacher's manner (is it sympathetic?); the assignment of the next lesson. These things are easily observable. The list is comprehensive but not so long as to be confusing.

2. Conferences with individual teachers: As soon as possible after he has visited a class, the supervisor should hold a conference with the teacher. A frank discussion, the keynote being that they are engaged in a cooperative piece of work, should result in the improvement of teaching. Points of difference of opinion should be made the subjects of research. The supervisor may suggest that the teacher visit another class where especially good work is being done. This may be tactfully handled by asking the teacher to observe and to report upon certain points without suggesting any comparison of work. It is suggested that the supervisor start the conference by calling attention to the good points of the recitation.

3. Group conferences: All of the teachers of one of the subject groups may be called into conference. A plan, appreciated by the teachers in one school, is to have all of the commercial teachers scheduled for the same lunch hour and to hold meetings around the luncheon table.

4. Measurement of results: It is claimed that one of the best criteria for evaluating instruction is to measure its results.[6] A program of testing, such as the use of standardized tests in various subjects, will aid the supervisor in discovering strong and weak places in instruction. Attempts have been made to measure the results of instruc-



tion by the use of questionnaires to pupils and graduates. The opinions of adolescents must not be taken too seriously, however.

5. Bringing before teachers devices for teaching their individual subjects: E. G. Blackstone[7] gives a series of teaching devices for each commercial subject. Supervisors should prepare such lists for distribution to their teachers.

6. Rating of teachers: Strictly speaking, the rating of teachers is an administrative function. It is, however, closely allied with supervision, since the supervisor collects much information for use in teacher rating. Many rating systems have been devised, some of them elaborate. A discussion of them, however, is outside the scope of this paper.

7. Departmental bulletins: In order to acquaint teachers and pupils with the policies of the commercial program and to encourage esprit de corps, bulletins may be issued from time to time. Many possibilities occur to the mind of the supervisor in planning such bulletins: news of interest in the business world; reports of the success of graduates; achievements of teachers and pupils; announcements of trips, opportunities and exhibits.

Roberts and Draper[8] conclude that supervision is the determining factor in making the head of a department more valuable to the school, for when heads do actual supervision, there is usually a provision to allow them more salary than the maximum for teachers. This fact shows that supervision is recognized, in the salary schedule at least, as being of major importance.

Many devices for supervision have been tried. They include: a definite semester plan, with provision for a certain number of visits to each teacher; a check list for use in visiting classes; a chart with a system of symbols for noting pupil activity; teacher rating forms. Each supervisor will find it necessary to adapt such devices to his own situation.

Expediting Routine Clerical Tasks

Interwoven with the duties of administration and supervision are many routine clerical tasks. To expedite their performance, current procedure in the business world should be consulted. Certain records and reports are required by the individual school and by the city and county administrative offices. It is well to have a list of such reports and of the time when each is due.

The head of the commercial department frequently has an added burden in the handling of the finances of the student group. He is the student group treasurer and the financial manager of the student store, the school cafeteria, the athletic games, the musical organizations and all extra-curricular activities. These activities are of educational value to the pupils who participate and they furnish an abundance of real practice material for the office practice class.

The administrator and supervisor, therefore, have many contacts to maintain—contacts with superiors in office; with teachers; with pupils; with business men and with the general public, through the medium of publicity. It is especially incumbent upon the one who administers a program of commercial education to perform his work in a businesslike manner.

Suggestions for Further Research

At present there is little specific material bearing directly upon commercial education. The literature of the field contains many scattered suggestions that are useful along this line. General books on administration and supervision abound with material adaptable to commercial education. It is suggested, however, that research along this line would be of value in contributing techniques applicable to commercial education.

A study of the literature of commercial education impresses one with the fact that the keynote running through it is "change." The changes in commercial education have been revolutionary since its earliest beginning. The aims and objectives are not fixed but must be made the subject of research in order to keep them abreast of the times. Curricula must be in a constant state of revision. Course content and teaching methods must not remain static. New tests must constantly be formulated. Untried extra-curricular activities should be planned in harmony with new developments in business. The administrator and supervisor must keep in touch with the changes in business and education. Research in commercial education is a means for its onward progress. Administrators and supervisors should keep in touch with professional organizations and with current literature so that their thought and work may be in harmony with the new business education that is suitable to a business age.

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Out-of-School Framers of Policies

After years of wandering around in a forest of "regular" work, schoolmasters, led by laymen, are gradually finding the way out by the path of civic responsibility

By WILLIAM McANDREW

IN AN attempt to answer the editor's questions—Who are the leading educational policy makers? Whither are they leading us?—I cited here last month the proposals of those pioneer Americans who saddled the cost of the schools upon all the people whether they had any children or not. Taking my own schooling as typical, I deplored the fact that there could not be found in it, from A B C clear through college, any evidence that the teachers and professors had any intent of directing my education toward the ends demanded by the founders of free schools.

Ray, Halleck and Tildsley

It was not until I escaped from college that I found any educator addressing himself to the big ideas. In 1887, William Ray, principal under whom I taught in Hyde Park, Ill., threw overboard his beloved Latin class and took his high school seniors into a course of American politics, five times a week, a whole school year. From one end of the state to the other Ray preached citizenship, civics, politics as the prime duty of the school. In our National Education Association, glimmers of the old American light, bedimmed in the mists of mental discipline, apperception, vertical penmanship and reformed spelling, began to appear. In the Detroit convention twenty-five years ago, on a drowsy afternoon, Reuben Post Halleck of Louisville sent a thrill through a languid audience of schoolmasters by his call to the big duty, to make politics in its pure sense the core of the school course and not an occasional elective in the senior year of the high school. As sometimes in a stage play an intense feeling grips the whole audience and silence can almost be felt, so Halleck, without realizing it, sobered us all as he touched the basic belief in the crowd of men who had been droning through the meeting.

A little later, in the Milwaukee meeting, John Tildsley, the New York City high school superintendent, put his keen scalpel into current high school procedure. "You are proceeding as though civic virtue will come as a by-product of your algebra, your Latin and your other favorites. Who selected these subjects with intent to train the pupils in the duties of citizenship? Nobody. Whence did they come? From the educational régime of monarchical Europe. How can you convert them into means of acquainting our youth with their duties toward our civic needs? You can't. What have they produced? A citizenry incompetent to prevent the debauching of our society by bossism, graft and corruption. What should you do with the high school machine? Scrap it and devise one intended to do what education was made a public charge for."

In 1916, William Bagley edited those pleas sent out by our government high officials to bring the schools to civic duty. For the first time in their lives the schoolmasters of America guided the children into doing something for their country besides saluting the flag and chanting "My country, 'tis of thee, I merely sing." At the close of the War the *Literary Digest* made one of its canvasses. Superintendents in all parts were asked, "What changes should the schools attempt as the result of the war?" Ninety-nine per cent of the respondents agreed that participation in public service should continue. The idea of the one per cent, entirely from New England, was expressed by one of the answerers: "Thank God, we can now get back to our regular work," at which Tom Finegan, also invoking Diety, remarked: "Good God! as if any public school work could be more regular than serving the nation."

Attempts to Wake Us Up

Charles Eliot used to say that it takes fifty years to get an idea into the schoolmaster's head. At that rate we should, by 1837, have been running a public school system as directly preparatory for civic service as West Point and Annapolis were for that of arms. Werrett Charters is more sanguine. He has said we can wake up to a new thought in ten years. Let us see. In 1921 our big assembly, the National Education Association, was held in Des Moines.

I remember that Governor Kendall gave us the address of welcome. It stressed the proposition that the public school should teach and strengthen democracy. He said there was a renewal of inter-

est in this, everywhere throughout the land. The gentleman who followed him was the state superintendent of schools. He said never a word on the governor's big idea, nor in his description of Iowa's educational program did he mention civic training. But President Chandler, of William and Mary College, Virginia, swung into the theme manfully. He reviewed our civic imperfections. He saw hope of political health only in the better training of the generations in their civic duties.

Laymen in Advance of Schoolmasters

Henry Ryan, speaking for the American Legion, besought us to study the American ideal, to get it into shape for teaching purposes, to realize that the government is not something separate! "We are the government. The government isn't good enough. It breaks out into graft, bossism, injustice. We are not frequent enough in our participation in our duty as government. We should be educating the boys and girls as government. They will be, or ought to be, it, to-morrow. We are not self-governing. We neglect self-government in school. Our youngsters are easy marks for hoodwinking by political bosses."

At that same convention Arthur Dunn, Red Cross representative, was plainly disappointed in school superintendents, although his courtesy prevented him from rudely saying so. "Nearly everybody," he said, "agrees that citizenship training must be continuous all through school. Dewey and O'Shea and Judd and Baldwin prove that for us, but too often citizenship training is tucked away in the corner of the senior year of the high school to which the fewest children arrive, and it is a dull, lifeless, description of our form, not our principles, of union. All the public school service amounts to but little unless it is imbued with the American spirit. But, cheer up, cheer up, more states are providing for continuous civic training."

That is true. Illinois had adopted a stiff requirement. In every school from the fifth through the highest grades not less than forty-five minutes a week must be devoted to the teaching of the principles of American representative government and patriotism as laid down in the Declaration of Independence, the Federal and state constitutions. What of it? I could not find any schoolmaster in Chicago observing the law. The first principal of whom I enquired informed me that no one in Illinois is noticing it. "It's like the law on the teaching of the effects of alcohol," he said. "Some wild cranks push the legislature into it. That's all it amounts to."

When the principals I talked with understood that we really expected to have the law obeyed, they showed me that the demands of "the regular work" would leave no room for this. "The North Central Association of Colleges wouldn't allow it," and so on. Harold Rugg, valient crusader for civic training, told me the greatest obstacle that the Lincoln School in New York found interfering with its direct civic service was professors on the college entrance committee. When John Tildsley proposed the course in civics for all the first-year pupils in the New York high schools, he had to fight every inch of the way with high school principals who said there was no room for it on account of the "regular work."

What do you find in your school organization? Frank Rexford's method has much to recommend it. He says, "Now you have shown that it can't be done, get busy and do it. Thus you will demonstrate, what I already believe, that you are that rare sort of genius that can do what is believed to be impossible." New York developed teachers who made the civics course and wrote its textbook, a composite of many authors. Chicago gathered, in a week, thirty teachers glad to base the school courses on the Declaration and the Constitution. The mayor's school board president cheerfully threw this work all out and me after it. I am inclined to agree with Professor Sisson that if the civic teaching of the previous generation had been properly done we wouldn't have the rotten politics we have to-day. Oh, would that Will Ray had taught my Chicago school trustees in the days of their youth when what they call their minds could have been impressed with civic responsibility!

Cause for Sadness and Joy

Where were we? We were considering the growth of educational policy during the past ten years as cropping out in our National Education Association. The waverings of ideas, the personalities of their promoters, the way laymen and our own people behaved, make an interesting human story. If I could tell it with the animation it is worth and could depict in their true colors the bravery, timidity, intelligence and stupidity of the persons concerned, I would enhearten and sadden you considerably.

At the Des Moines meeting, the grand old Roman, Homer Seerly, warned us that the passing of democracy to an oligarchy of authoritative groups foretells the loss of peace if we do not do better. Our committee on the reorganization of elementary education stressed the necessity of training children "for faithful guardianship of the city, state and nation"; but the committee for reorganizing high schools did little to disturb

"regular work." However, a committee on the training of character aimed a good shot at the slogans of my normal school days. "The model virtues of the school," it said, "are not of the greatest importance. They may be directed towards selfish ends. We need larger, more generous aims."

What They Tell Us at Conventions

As we come searching through these ten years among the innumerable diversions, good in a way, but clearly of secondary importance as contrasted with the fundamental purpose of schools supported for a great part by citizens who have no children to educate, we notice Maude Park of the National League of Women Voters taking as her National Education Association subject, "The Democratic Awakening." We hear Charles Evans Hughes, as secretary of state, telling the schoolmasters, "You give very little attention to training for citizenship. You don't inform those who are to be our successors how our political institutions are working." He, from the state of Boss Platt and the city of Tammany Hall, knew who really was working, and whom. What teacher now understands how the government by the people is working in his own town, or wants to know?

Another American Legion speaker insisted that "the American goal of education has not been reached and will not be until you prepare the children for an active participating citizenship." We have had Ruth Bryan Owen, a member of Congress, telling us that we have run up the flag over the schoolhouse, but we are saying nothing as to what should be done. We must see to it every citizen cares. We had Newton Baker tell us, at Cleveland, that the chief business of democracy is education, and we educators should make our chief business, democracy. We had Mayor Dever welcome the association in Chicago and heard him say that education should advance more the moral and civic force of our common life. These were laymen.

So was Horace Mann urging schools to promote citizenship more than scholarship. So was Clark Howell, editor, asserting that the chief aims of public education must be specifically those in the preamble to the Constitution. So was Edward Gay, editor, *New York Evening Post:* "Democracy without education for citizenship is a failure. Schools may help the participant earn a living, but they must meet the responsibilities of a democracy." Daniel Webster was not a pedagogue but he was sure that "Education must be universally diffused and devoted to accomplishing the ends of good government." Edward Sisson begins his "Education for Freedom" with a quotation from a layman, Walt Whitman, urging that "man be properly trained in the sanest freedom so as to become a law not unto himself alone but in all relations to other persons: the state."

It is significant to know what these out-of-school organizations that preach to us are after. The American Legion says it "aims at training for good citizenship, to lead individuals to adjust themselves to civic requirement." The Knights of Columbus avow "service to God, to our country and to our fellow men." Chautauqua, in the words of Founder Vincent, is aiming at "a pure and exalted citizenship." The Women's Christian Temperance Union desires "to preserve the capacity of the masses for self-government." Lincoln, Hayes, Roosevelt, Taft, Wilson, Harding, Coolidge and Hoover, all laymen, have sent us greetings, repeating the same old big idea, so familiar that it is a commonplace, so frequent that it dulls us. Yet we go on passing resolutions. "Them's my sentiments," says the lazy man.

Coming Around to It

By 1924, at the Chicago meeting, a new note got into the resolutions. We "pledged" ourselves to do something. Professor Judd's persistent pushing for curriculum revision moved us ahead. The committee on goals reached a conclusion that the preponderating purpose of the public school, from which all its activities get their sanction, must be social, civic, political. There is a good deal of Sunday sermonizing in the business yet, along with the week day practice of the dear old Latin-algebra-education-for-leisure sins. In the Cincinnati, 1925, meeting of the superintendents, the whole program was built on the civic-service idea. A national shield inscribed "School is for service not for self" stood in a conspicuous place on the stage. If a physical training stunt, or a musical number, or any other entertaining feature came on to pay the audience for listening to speeches, whoever had charge of the interpolated feature promptly shoved the civic motto out of sight and forbore to return it to the place of honor. With growing disappointment, the one who had contributed the shield sought it and set it up again, each time, amid increasing mirth of the spectators.

So was it in New York when William Ettinger, superintendent, insisted "patriotism isn't an opening-flag-salute to be over for the day. Every school work you direct, every exercise, should be saturated with the civic-service idea." Committees were revising courses. A syllabus for English came in first. An introduction listed the aims. Where, in the preface or in the outlines, was any

reference to civic duty? There was a course offered for the use of the school library. Its author had risked his life for his country with our troops overseas. What was the civic saturation of his course for children? Zero per cent.

Commissioner Finegan kept the live school men of Pennsylvania busy at a curriculum in democracy until every grade was covered by clean-cut lessons in civic duty. In violation of every principle of democracy you can name, Pennsylvania ousted Finegan. I happened to be in one of the largest cities of the state afterward and asked the superintendent where I could see the best teaching of citizenship. He was sorry; he had been so busy with sites and buildings he had been having the schools do nothing but "regular" work.

Back to the Idols

It was the same, was it not, in the time of Moses? None of us contradicted his plan of proper conduct. Some of us applauded. But the minute his back was turned we ran back to our regular idols and danced around them to beat the band. No wonder he was angry enough to break all the ten commandments.

Ettinger, Finegan, and "your Uncle Dudley," each went into an official grave dug by means of political machinery that could not have been operated if the teachers of 1900 had been as concerned in training public opinion as Washington urged. Here I pause to shed three tears, for New York, Pennsylvania and Illinois, and to agree with Mr. Prosser that public opinion in matters educational is weak indeed.

It is time to sprinkle into this discussion a few more enheartening facts. In 1925, Carter Good's "Teaching in College" was brought out by Warwick and York, showing that, in 1909, 40 per cent of returns to a questionnaire recognized political responsibility as an aim of the heads of colleges and universities. In 1921 a similar questioning showed this to have gone up to 75 per cent. That indefatigable searcher for facts and an authority upon what a questionnaire can show and what it cannot, Leonard Koos, discovers that training for civic duties has risen in ten years from almost the bottom of the list of what high school principals say are their aims. Civic service is now very near the top.

By 1924, the National Education Association had come to making a program around the question, "What has the country the right to expect of its schools in the way of training citizens?" Before that, Henry Holmes of Harvard had made a ringing plea to stop talking big about democracy and to teach more of its duties. Duncan Yocum's committee on democracy got his ten commandments adopted by the association. These included, "Thou shalt teach the child to get his rights associated with the general welfare; thou shalt teach majority rule for general welfare; thou shalt teach equality in rights and opportunity." James Marr Gwinn, the San Franciscan, brought in a report of where we are now, showing a decrease of home control, too much license for youth and a tendency on the part of educators to magnify self-interest. By 1925, we resolved "to direct the daily exercises of our schools preponderatingly to train the American citizen to live up to American civic, political, moral ideals," and too many of us went home, put in our bills for travel expenses, and returned to "regular" work.

Ever since then we have been civically "resolving" at every meeting. There is no debating of the resolutions by the members. They swallow them whole. What difference does it make? But Augustus Thomas has had us "demand" a program of education aimed to do away with war. A syllabus prepared with this intent by Chicago principals was discovered by the board of education and swept into the *vernichtung*. But a world federation of teachers, not entirely to the liking of Ezekiel Cheever, is manfully keeping international civics in view. We now have addresses on character in democracy at every convention. We have professional codes of ethics for our own behavior.

The Call of Education

We are, we really are, attempting to know the weakness of education. The best of our speakers, the most quoted of our authors say so. John William Cooper told all of us we are shaking off the fetters of tradition. What are we putting on instead? Henry Snyder says, "duties to society, dignity of service, guidance by democratic ideals, the obligation to show mankind the beneficence of a people ruling itself." At our last assembly, the revered Walter Jessup, the president of the University of Iowa, who will not stretch the truth even to compliment an audience, reviews our programs and encourages us to believe we are in fact progressing: "We are moving toward our social and civic obligations."

Thank God, we are getting down to our regular work. I hear the voice of education crying, "Get this load of lumber off my back. Let me get at that for which I was called by the Fathers. Yes, I know it's good lumber, but it cripples my arms; it impedes me. I am encumbered. Free me and set me on the road to cleaning up this mess they call politics."

It was Rabbi Hirsch who said if Jefferson and the others came to see the schools they urged as public charges and found how little of its main duty education had performed, the founders would weep bitter tears of disappointment.

Cheer up! our last big meeting at Atlantic City (I write this before the July gathering) hears Judd demonstrate the ways in which we are moving ahead; it hears Carroll Reed rejoice over the increased use of the school plant for the betterment of the whole community; it sees that political martyr, Suzzalo, show how to train venturesome whole-hearted youth to the kingly dignity of a sovereign people; it notes Dean Edmonson of Michigan congratulating America on the phenomenal educational gain in the past ten years and on the spirit in which superintendents are tackling the social and civic problems of their communities; it observes Frank Cody insisting that we are paid by the community for general welfare and not for the selfish advantages of parents and children and are more and more giving what we are paid for. It hears the opening address and keynote of the whole convention in Rheinhold Niebhur's persuasive urge that we cease trying to prepare our children to solve the problems of to-day by the traditional teachings of scholastic yesterday.

Enough people still have faith in the schoolmaster to enable him to turn to the legitimate national educational policy and realize it. It should not be put off until the beginning of a new term. An early teachers' meeting should be announced as intending an inquiry as to what your school system is doing in the line of inculcating civic duty: "Come prepared to ask and answer questions and to suggest changes in the course of study for getting us closer to the larger obligation."

Improved Educational Radio Programs Urged

Educational broadcasting stations may all disappear in the United States unless educators formulate a future program of action in respect to the allocation of certain channels for educational station broadcasts, Armstrong Perry, the specialist in education by radio, Federal Office of Education, stated recently.

During the past six months, fourteen of the seventy-seven educational broadcasting stations ceased operation, Mr. Perry said. Such stations are operated by schools and colleges. Lack of financing and poor technique in broadcasting account for the disappearance of these stations.

Educators desire to have Congress, when it acts on new proposals affecting radio, set aside a reasonable number of wave lengths for the educational field. But before Congress devises new radio legislation it will be necessary for the educators to work out more definitely their opinions and plans in respect to the nature of their broadcasts, he explained.

Argument raised against the proposed reservation of channels for the educational stations has been based upon the criticism that educational programs, Mr. Perry pointed out, are made by persons without any mastery of radio technique. It has been said, he continued, that on account of this lack of technique, programs are produced not suited to a large audience, and will continue to be so produced.

The colleges and universities that maintain broadcasting stations have answered by pointing out that they are not in competition with commercial stations and advertisers. Their audiences are concerned with a particular kind of program, one that is educational in character and not intended for amusement.

The disappearance of the educational station is caused largely by a lack of financing, Mr. Perry explained. Unless the states, the universities, and the colleges finance their stations more liberally than heretofore this type of station will cease altogether, he said.

Where the School Bus Driver Must File a Weekly Report

Ralph H. Longfield, superintendent of schools, St. Joseph County, Ind., maintains supervision over the transportation in his county in part through a weekly report of the school bus driver to the principal or teacher of the school served.

The vertical headings of the report form are the five school days. The horizontal are: (1) length of route (distance from where first pupil enters bus to the school building); (2) time first pupil enters bus; (3) time of arrival at school; (4) number of pupils; (5) time last pupil leaves bus in evening; (6) conduct of pupils; (7) condition of roads; (8) Was the bus warm? (9) Was the bus clean? (10) Did you stop for railroad crossing? (11) gallons gasoline added (if equipment is owned by township); (12) quarts of oil added (if equipment is owned by township). A line is provided at the bottom of the page for listing names of pupils whose conduct was unsatisfactory. The full report is filed by the receiving principal or teacher with the township trustee.

In Defense of Modern Education

Dr. Boyd H. Bode's charge that there is little to praise and much to condemn in American education, that it is pathetically conventional and lacking in objectives, is refuted here

By M. V. O'SHEA, University of Wisconsin, Editor in Chief, The Nation's Schools

PROF. BOYD H. BODE, Ohio State University, is heard and read with interest and appreciation whenever he speaks or writes on educational topics. His sincerity and brilliancy win the attention and good will and often the belief of his auditors or readers. The Fates have bestowed upon him in large measure the gift of speaking and writing with grace and force, so that he is convincing beyond most of those who are engaged in educational discussion to-day.

Doctor Bode has summed up his views of modern tendencies in education in a trenchant article in the *New Republic*. Some superintendents, principals and teachers who have been upholding modern education with devotion and enthusiasm, confident in the soundness of present day educational ideals and objectives, will be much disturbed by Professor Bode's philippic against modern education. He has no good word to say for either the trends or the objectives in schools and colleges. On the contrary, he is alarmed over what he sees going on in classrooms and laboratories everywhere. He says that American education is confusing because it is impossible to tell what its objectives are. It is corrupted by numberless fads and panaceas. It assumes to be scientific but it is really "pathetically conventional." It scorns the education of an earlier day, but to a "casual observer" it is impossible to detect any rational plan or program for the future. There is no harmony in either theory or practice in American schools or colleges; instead there are divergent views and ceaseless conflict. One could extend considerably the list of defects, deficiencies and inconsistencies in American education as viewed by Professor Bode.

Professor Bode's Background

Probably most readers do not know that Professor Bode has come only comparatively recently to be concerned about educational programs or procedures. Long before he began to give attention to education he was steeped in metaphysics. He studied and taught philosophy for many years. He approached the examination of education from a philosophical standpoint. He has never had and does not now have the attitude of the experimenter in dealing with educational topics. He solves problems by reflecting upon them, not by testing them, or by securing concrete data concerning them. This may explain, in part at least, why he is entirely out of sympathy with the present day method of dealing with problems that have been perplexing educators ever since they began to doubt the validity of the reflective method of arriving at the solution of complicated questions.

The Old Philosophy and the New

The break-up of the earlier educational régime has been due largely to the influence of what might be called biological and experimental psychology. William James introduced the naturalistic method into the investigation of human nature. His disciples have gone much further than he went in making psychology a natural and experimental science. In consequence of the abandonment of the reflective or speculative or metaphysical method of investigating human needs, those who determine educational policies to-day have gained new conceptions concerning the effects of varied educational materials and methods upon the intellectual and emotional activities of those who are undergoing educational treatment.

The mental discipline derived from the mastery of formal materials which constituted almost the entire load of early education has been shown by modern educational psychology to be illusory for the most part, and so the educational programs that have been based upon false psychological premises are being fundamentally reconstructed. Differences in intellectual ability among children are being established by psychological tests and measurements. Differences in the range, rapidity and thoroughness of educational achievement are also being established by tests and measurements that have been worked out experimentally. The limits of ability on the part of some children in the mastery of certain types of knowledge and skills have become established experimentally and are affecting the educational

programs prescribed for some individuals. Professor Bode regards all this work as pseudo-scientific, although he does not use the term. By inference one must suppose that he has no confidence in any psychology except the introspective type, which has been abandoned by practically every American educator who is determining educational policies.

Is Modern Education Chartless?

It should be borne in mind that Professor Bode does not pretend to plan for superintendents, principals and teachers any program relating to subjects to be taught or to methods of presentation. He expresses doubt about modern education. He is distressed by what he sees. He condemns. But he does not point the way out. If he has reached any conclusion regarding desirable courses of study or modes of teaching, it must be that he would turn American education back to the days when reading, spelling, writing, numbers and grammar constituted almost the sole material taught in the elementary grades, and when foreign languages and mathematics constituted the principal subjects for mental discipline in both secondary schools and colleges.

Professor Bode would approve of a program of teaching spelling in which twelve or fifteen thousand words would be taught in the elementary school, although it has been shown[1] that ninety-nine out of every hundred Americans never need to spell more than twenty-five hundred words at the most and that seven hundred and fifty words will carry the great burden of spelling requirements. For rigid mental discipline Professor Bode would apparently have pupils memorize ten to twelve thousand words which they would never employ after school days. In the same way, he would have them learn technicalities in grammar that have been shown[2] (and the findings corroborated) to play no rôle in the oral or written expression of any person except a grammarian and philologist. Professor Bode would apparently have pupils learn rules and formulas in arithmetic and algebra and apply them to situations remote from daily life. He would have pupils spend years on the grammar of foreign languages that they learn to read or to speak and that they rarely use after graduation.[3]

Professor Bode extols rigorous, systematic thinking. As a reflective psychologist he may conclude that learning to spell ten or twelve thousand words that are never used will stimulate rigorous, systematic thinking, but any experimentalist would hold that instead of cultivating rigorous thinking, the memorizing of words has exactly the opposite effect—it restricts rigorous thinking and exalts mechanical memory. The same tragedy results when pupils study formulas in mathematical subjects and apply them to formal, remote, imaginary cases, or when they memorize rules in grammar and try to find out how these rules are used in literary works. There is a yawning chasm between Professor Bode's view of what is essential to teach children and the views of the so-called modernists who derive their conclusions from experimental data and who take a naturalistic view of the mind and regard its activities and powers as determined specifically by the kind of experience to which it is subjected either within the school or without.

Professor Bode complains because present day educators do not know where they are going; modern education is chartless; it has no goals, no clear aims, no objectives toward which it is striving. He assumes that the older education had definite and clear-cut goals and objectives. The only goals that the older education actually had were the acquisition of "culture" and the discipline of the mind through formal and largely symbolic materials. With the dawn of the naturalistic era, men gradually saw that the objective of training the mind through formal subjects so that it would be competent in all the situations of daily life was impossible. With the abandonment of the older psychology, education became inevitably much more complicated in order to meet the complicated situations of actual life. The goal set by the educational reformer, which is now guiding educational effort and framing educational policies, is so to train the child that he can understand the physical and social world in which he must live and can adjust himself thereto in order to reduce discomfort and to increase harmony and well-being. The only sense in which modern education is chartless is that we do not yet know in detail how to attain this goal.

The Schools and the Changing World

The world is changing so rapidly that the schools cannot keep up with the requirements in preparing the young to fit into the social scheme and to become adjusted to the physical environment. Under the old educational régime, such complexity as we now have would be unthinkable, because people could neither understand nor adjust themselves to such complicated environments. The school cannot say that the physical and social world shall remain static. It is the duty of the school to take account of changes occurring in the world and to train the rising

[1] Cook and O'Shea, The Child and His Spelling. Numerous investigators have since corroborated the findings presented in this book.
[2] Stormzand and O'Shea, How Much English Grammar?
[3] O'Shea, M. V., The Reading of Modern Foreign Languages, United States Bureau of Education.

generations to understand and adjust themselves thereto effectively and harmoniously. To most educators, at any rate, the objective of modern education is definite enough to offer guidance and to inspire confidence; but to the philosophic, metaphysical mind the educational program may appear confused, full of fads and fancies and drifting aimlessly and helplessly with the tide.

Professor Bode finds greatest fault with modern education because of the freedom granted to the child. He thinks that a sound educational regimen should prescribe a definite program for children and compel them to pursue it regardless of their interests. He feels that all the materials of education should be organized logically and systematically. The child should then master them as they are presented to him, and his likes and dislikes should be ignored. He thinks that nothing is studied in schools to-day that the children themselves have not chosen. Of course, this is absurd. If Professor Bode would visit any public school classroom in America, he would find that all the old-time subjects of instruction and many new ones are being taught in a systematic way. The only difference between what he would like to see done and what is actually being done is that the materials in every subject are being organized in the way in which they can be mastered most readily, effectively and pleasantly by the child, in the belief that if the child does his work with pleasure and enthusiasm it is better for him in every way and his mastery of it is more thorough than if he does it with resistance and in the spirit of drudgery. The only sense in which the child is taking the initiative is that his interests are being studied and materials of education are being presented to him according to the way in which he can master them best so that he may make fullest use of them in the various life situations to which they relate.

Reflection Versus *Dynamic Activity*

One reads with some amusement the attempt of Professor Bode to exonerate Professor Dewey in respect to the doctrine of interest and freedom. For three decades at least, Professor Dewey has been on the lips of every educational policy maker who has been attempting to base the work of his schools on the interests of those who are being educated, and who has planned classroom procedure so that the child will not be held in rigid restriction but will be granted as large freedom as is consistent with the success of the work of a class as a whole. For one who protests against freedom for pupils while they are mastering the materials of education to attempt to protect Professor Dewey from castigation is disconcerting.

It may as well be acknowledged that the conservative type of mind, viewing modern education as a "casual observer," cannot appreciate or endorse the tendencies in present day American education. The simplicity of the ancient régime is esteemed more highly than the present diversity and apparent confusion. One who regards reflection more highly than effective dynamic activity prefers a type of education founded on the doctrine of rigid discipline through the memorization of symbolic materials largely, rather than the type that seeks to train the individual upon materials and in ways that are as closely related as possible to the actual situations of the physical and social world. American education is going forward on the latter program with tremendous momentum.

Bulletin of Special Interest to County Superintendents Is Issued

Attention of county superintendents is called to a recently issued bulletin of the state department of education of Vermont entitled, "Special Rural School Bulletin—Practical Projects for Rural School Teachers." The preface by Clarence H. Dempsey, state commissioner of education, includes the following statements:

The bulletin is issued with the purpose of bringing to supervisors and teachers of rural schools helpful suggestions for meeting and solving problems that are distinctly characteristic of such schools.

How should the schools be organized to meet the obvious advantages of graded work and at the same time avoid as much as possible the division of the school day into too many short class periods?

What combinations of classes or subjects can profitably be made? What advantageous correlations and alternations of studies are possible?

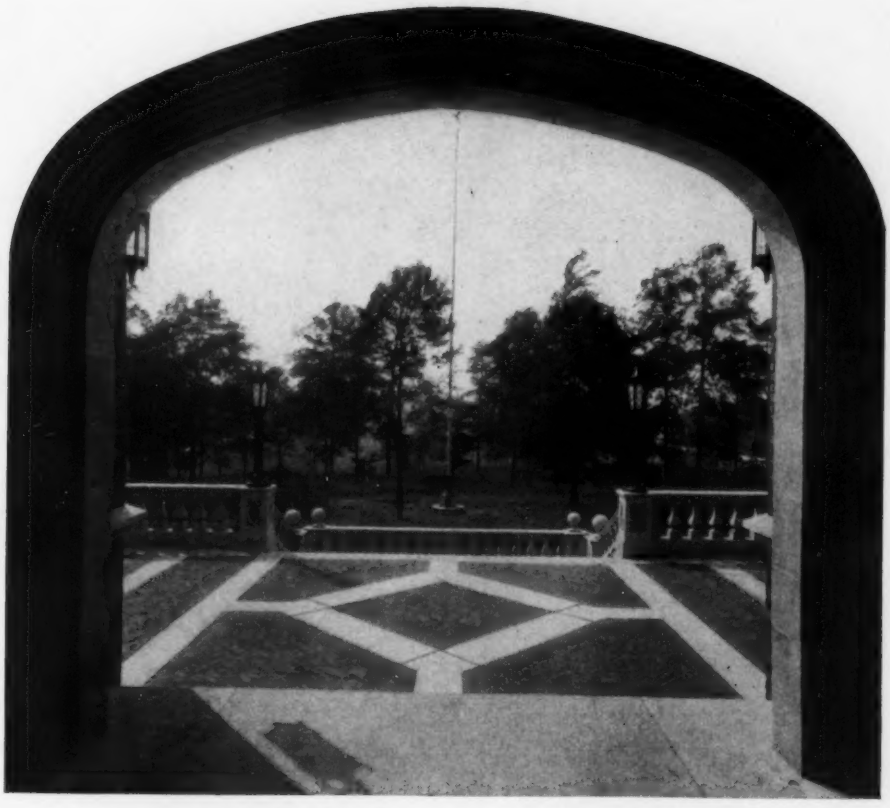
How can the spirit of competition and ambition be aroused in a small group of children?

What applications of school work or what extra activities can be practically developed to enrich the school life?

What creative work is feasible?

How can the teacher's time be best conserved and used?

These and other similar questions are continually pressing for answers. In this bulletin numerous suggestions are given based on successful experiments and practices here and there throughout the country.



This view from the main entrance of Teaneck High School, Teaneck, N. J., overlooks the terrace and a part of the campus.

A School That Provides for Both Social and Scholastic Needs

By MYRA C. HACKER
Hacker & Hacker, Architects, Fort Lee, N. J.

AMERICANS are justly proud of the great interest taken by the general public in the advancement of education. In a great measure progress in this line indicates a community's social, industrial, economic and esthetic background. In no place in the school system is this as apparent as in the school plant.

In Teaneck High School, Teaneck, N. J., we see the community's aspirations reflected in the action of the board of education. After a careful study of the problem of secondary education as it affected their community, the board called in a school architect for advice in the initial procedure. In planning the building, the board and the architect decided that the facilities of the school should include adequate provision for the scholastic and social needs of the pupil; for community gatherings; for the future needs and development of the population; for durability and wise economy through the coming years. A conscientious and efficient school board is the safeguard of the community. The township of Teaneck was fortunate in having a board with these qualifications. Under the able guidance of Chris D. Sheffe, president of the board, the problems arising in the erection of the school were skillfully handled.

The Teaneck High School is an outstanding example of a well planned high school, constructed at an exceptionally low cost for a school of this size in a metropolitan area. It is planned to provide ultimately for an individual junior and senior high school, with the auditorium as a central unit common to both, each with its own departmental rooms, gymnasiums, laboratories, cafeterias and other facilities. The plan is so arranged that as the building is extended in various units each department will have its proper location in the completed plan and will be of proper size for the increased capacities.

In these days of changing social and economic requirements one can scarcely anticipate from year to year what may be the future needs of pupils. The type of planning followed in this school makes it possible to install necessary equipment without marring the architectural theme of the entire scheme.

Texture walls and a high ceiling, paneled wainscoting and built-in bookcases aid greatly in making the library attractive for study purposes and general research. The excellence of detail observed throughout the entire building is apparent in the general office, a view of which is shown below.

The design is an adaptation of the Tudor style which lends itself readily to future extensions, for with the addition of each unit the building always appears to be complete. The exterior is of vitrified face brick in shades of red and dark blue, laid in English cross bond with stone trim. The stonework has a structural as well as a decorative function. The units of the exterior stonework are small and easily handled, an important item in labor costs. No wood is used on the exterior with the exception of the window sashes. The sashes are reversible and may be easily cleaned, painted or reglazed from the inside. The roofing is bonded for twenty years, and the type of flashing is such that it will outlast the roof. All the metal used on the exterior is copper or lead.

The same excellence of detail is apparent in the treatment of the interior. Corridors have terrazzo floors, with sanitary coved base. This, with the recessed lockers, lessens the problem of dust and practically eliminates the necessity for painting. The stairs are constructed of steel with terrazzo treads.

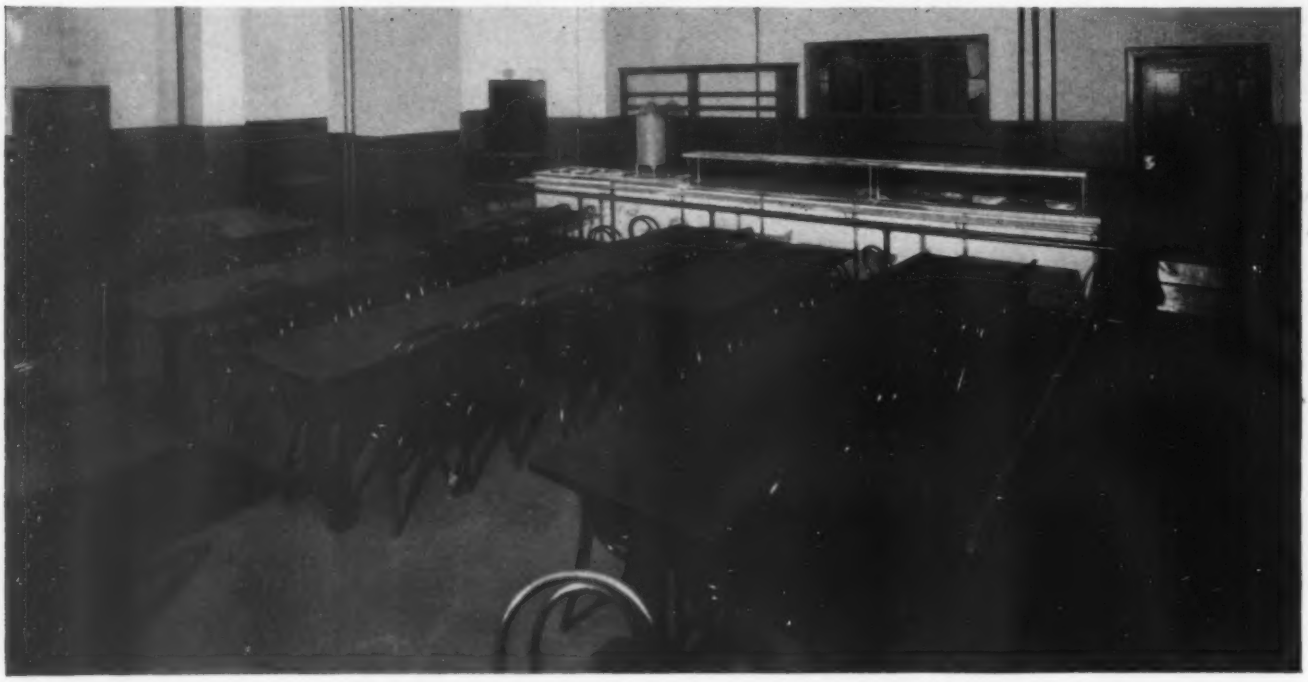
The corridors and stairways are sufficiently wide to facilitate the passage of large numbers of pupils at one time. This has been commended by administrators of school buildings who have experienced difficulty in this regard. Time is saved and good deportment is encouraged when there is adequate facility for the pupils to pass each other.

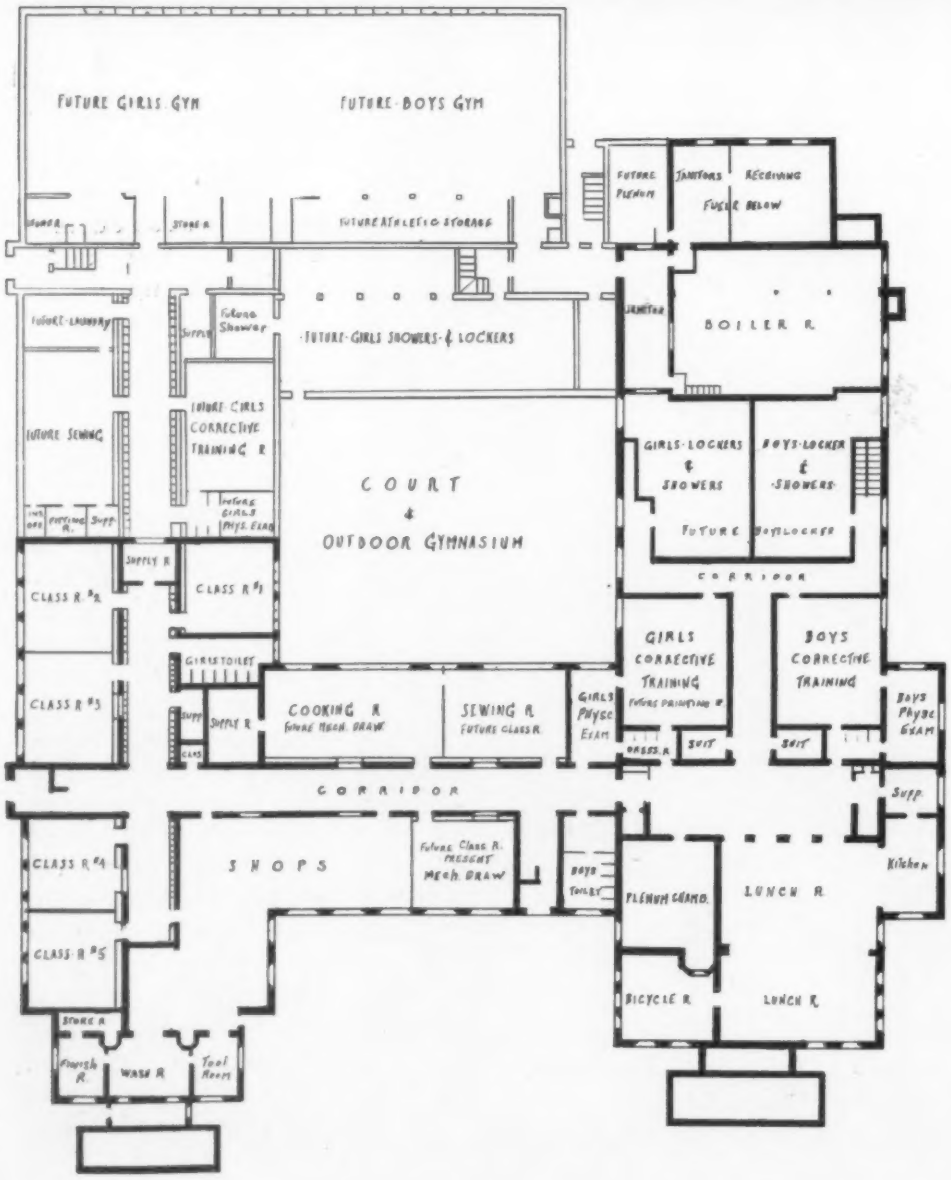
The exterior of the Teaneck High School is of vitrified brick in shades of red and dark blue, laid in English cross bond with stone trim.

In the classrooms a type of floor is used that is impervious to water and acids, yet is resilient to the feet. Classrooms are provided with cork bulletin boards and ample blackboard space, artificial lighting and an intertelephone system. Electrical outlets are provided for stereopticon and other purposes.

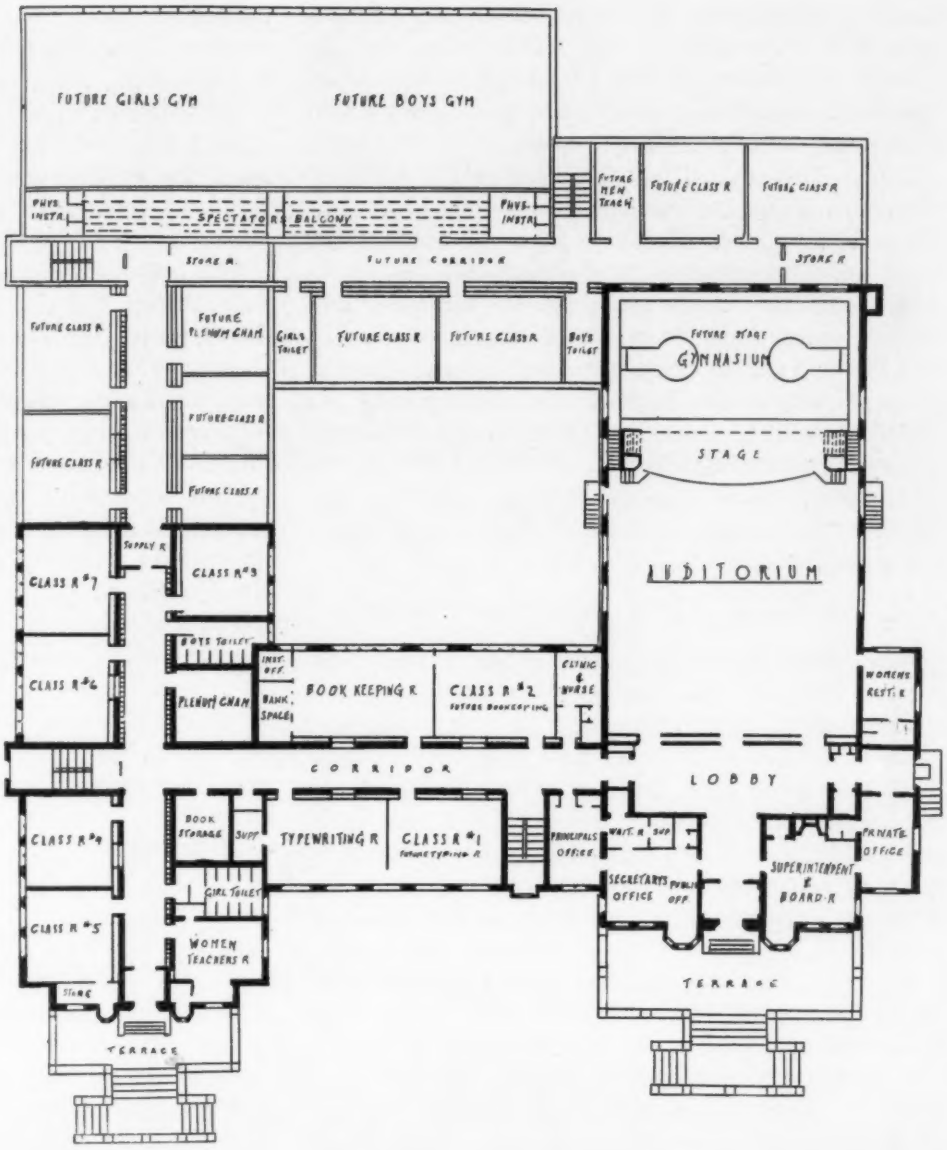
Of exceptional importance are the sanitary facilities. Toilet rooms have terrazzo floors with coved bases, cream colored tile wainscots and tinted plaster ceilings. The stall partitions are of marble and the fixtures are of a special school type.

The building is heated by a vacuum steam system, thermostatically controlled. The layout of this system permits the building to be heated and ventilated from fan chambers during the Fall and Spring, or heated by direct radiation in colder weather. This effects a great saving in fuel. The system is designed so that the administration offices may be heated separately for use outside of school hours. The auditorium and gymnasium may also be heated and venti-

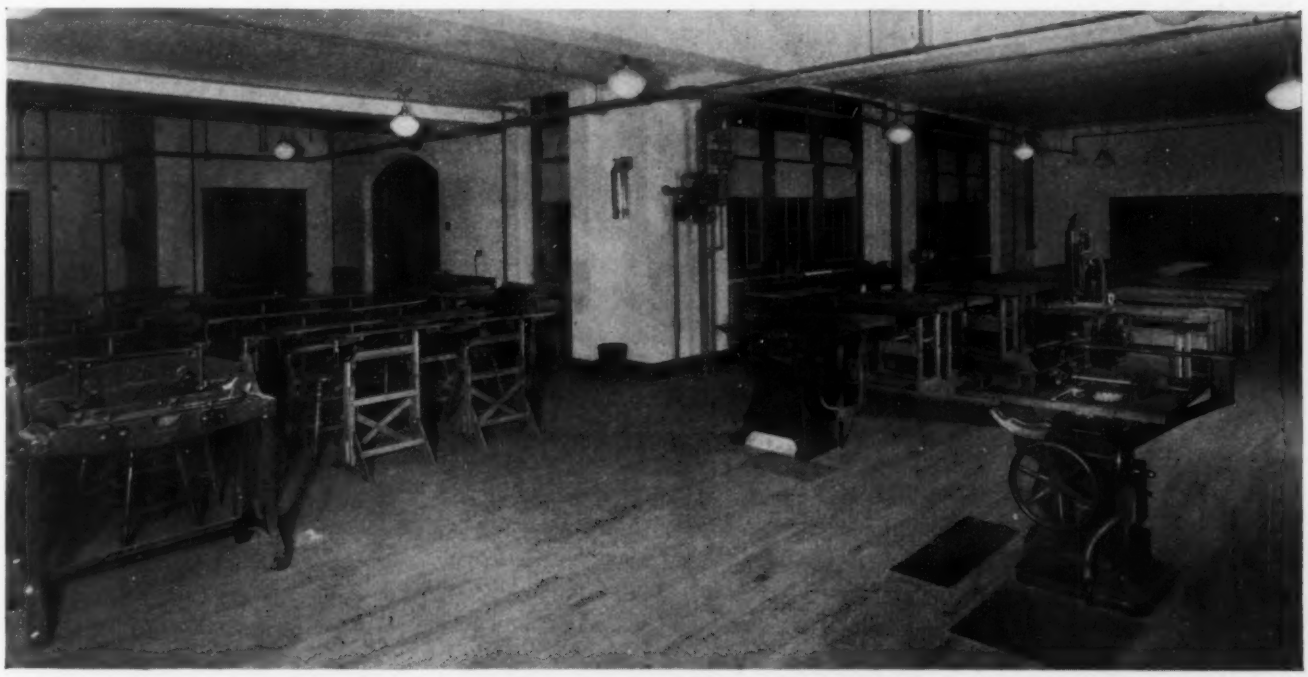




Shops, lunch room, classrooms, cooking and sewing rooms, locker and shower rooms have been included in the plan for the present ground floor of Teaneck High School. These facilities have been laid out with the future expansion of the building in mind, a tentative plan for which is included here. A view of the school cafeteria is shown above.



The auditorium, which is considered an important feature of the new high school, is located on the first floor. It is well lighted and the stage can be converted into a gymnasium. This plan also shows how the future expansion of the school was considered when the present plans were drawn. The lower picture shows a part of the shop department.



lated independently of the school proper. Provision has been made in the boiler room for the future installation of two additional boilers when these are required by the future extensions which eventually will house from 3,500 to 4,000 pupils.

Some special facilities provided in the building deserve special comment. The auditorium combines beauty and efficiency at a minimum cost. This spacious room, which accommodates about 1,200 persons, is impressive. Its richness and dignity come, not from the customary pilaster and beamed ceiling treatment, but from the leaded glass windows; the high arched ceiling with its simple paneling, acoustical plaster and air supply grilles; the careful selection of tones and textures of the finishes on walls and ceilings, and the color harmony and graceful lines of the window draperies and stage curtains.

Auditorium Is Well Lighted and Ventilated

The large windows on both sides of the auditorium give an abundance of natural light and a natural cross circulation of air. In addition, mechanical ventilation has been installed. These features should be of interest to many high school administrators who have been forced to cope with the problems arising from auditoriums dependent entirely on overhead and artificial lighting and with all means of natural ventilation entirely eliminated.

The practical use of the room has also been studied, resulting in excellent sight lines and acoustical properties. Footlights, border lights, a large projection booth, dimmer controls, concealed sash operators, concealed radiation, retiring rooms for men and women, excellent stage properties and ample exit facilities make it possible to use this room for any purpose or for any type of gathering.

The stage may be adjusted to several sizes, ranging in depth from 13 to 50 feet and in lengths up to 50 feet, giving practical sizes for speaking, for plays, for pageants and for graduation exercises.

In addition to the auxiliary gymnasiums or corrective training rooms, a large stage gymnasium is included in the first unit. This will permit a future increase of the seating accommodations of the auditorium of about 25 per cent.

For each department we find instructors' offices and the accompanying advantages of maximum room utilization.

The music room seats approximately 175 persons and is considered one of the most interesting rooms in the building. With its small platform, level floor and stepped seatings, it admirably fills the needs for a room for teaching all types of music, for the use of larger groups in the academic studies, for teachers' meetings, for student activity meetings, for study purposes and for the use of outside community organizations. Five supply closets are provided to permit separate storage space for various organizations. This room has a textured treatment of the walls and acoustical plaster.

The texture walls and high ceiling, the paneled wainscoting, the charge counter and bookcases of the large library aid greatly in making this room attractive for study purposes and general research. Large windows give ample light. Adjoining the library at each end is a library classroom. While the library is considered essential in the scheme of education, its value often is greatly lessened because of the need of library classrooms where pupils are taught to use the library efficiently.

The psychologic effect of the way in which the school is finished is noticeable. That utility and cheerfulness have been the goal throughout is apparent in the selection of the finishes for the woodwork, the colors of the terrazzo floors and base, the wainscoting and treatment of wall surfaces and the impervious tile panels of the drinking fountains.

Correspondence Courses Grow Increasingly Popular

More than 200 subjects, through correspondence, are offered by 150 colleges and universities, a recent survey shows. Probably more than 150,000 persons are taking these courses. Some of the outstanding advantages of such study are:

1. The student may advance as rapidly as time, ability and industry will warrant. No time is wasted in waiting for others.

2. As all lessons are written, the student has ample opportunity for practice in written expression.

3. A much wider range of subjects is available to the student than through classwork outside of the institution, as the latter necessitates finding a group of persons who desire to study the same subjects at the same time.

In the modern university correspondence courses the assignments are clearly made and the difficulties carefully explained. The criticisms by the instructor are usually definite and helpful.

Of the 149 institutions reporting correspondence courses, 111 report that they render such service to persons residing anywhere; eighteen report that their correspondence service is restricted to persons who reside within the state where the institution is located.

Why the Rural School Does Not Meet Modern Needs

This department of rural education is conducted by Helen Heffernan, chief, division of rural education, state department of education for California, Sacramento, and president, department of rural education, National Education Association.

By EMERY N. FERRISS, Cornell University

THE idea that the secondary school is a social institution in which all normal adolescent children are welcome and in which they will be provided with educational opportunities suited to their optimal individual and social development has in theory been largely accepted in this country. The implications of this modern conception of secondary education are gradually becoming clarified through the intensive study of the various problems involved, and modifications in practice looking toward improvement are being made, particularly in the larger schools.

Many of the problems of providing secondary education suited to the needs of youth in a democracy must be considered, however, with reference to the different types of communities served. Providing secondary school facilities of a modern character for children of rural areas requires the study of problems in the light of the conditions under which the secondary school operates in such areas. Because of lack of attention to the problems peculiar to rural secondary education and because also of the inherent difficulty of some of these problems, the newer conceptions of secondary education have not been translated into practice in rural communities in a degree comparable to that attained in urban centers.

Size of Classes an Important Factor

In rural areas the large majority of secondary schools are small. In contrast with urban centers, where providing for the large numbers of pupils is an important problem, in many rural communities one of the serious problems is to bring together at one place children in sufficient numbers to make economically possible an adequate educational program. Concentration of population as contrasted with sparseness of population accounts in great measure for many of the differences between the problems of secondary education in urban and rural communities.

While less than 2 per cent of the rural high schools of the United States have pupil enrollments over 300, approximately 65 per cent of the urban high schools enroll more than 300 pupils. On the other hand, less than 13 per cent of the urban high schools have enrollments under 150 as contrasted with more than 89 per cent of the rural high schools that enroll fewer than 150 pupils.[1] The problems of rural secondary education are peculiar to, or are to be considered with reference to, small schools.

Broader Training Is Needed

It would be impossible within the limits of a single article to present a large proportion of the problems of rural secondary education. We shall therefore consider only a few of the broader problems that seem to be of especial significance and that involve specific questions.

The problem of reorganization of secondary schools in rural communities to conform with the modern conception of secondary education is immediate and pressing. Rural secondary schools have as a class offered training of a narrow academic type. Considered from a modern psychologic point of view such training is inadequate for the development of adolescent youth. For a reasonably normal growth and to provide exploratory and try-out opportunities, there are needed in the program of the rural secondary school, materials and activities that promote the development of the emotions and the coordination of mind and muscle; materials and activities that develop group cooperation and understanding and that further health and physical development. Looked at from the social point of view, the work of the rural secondary school should promote health, citizenship, worthy home membership, worthy use of leisure, vocational understanding and efficiency, and habits and standards of conduct Looked at from both the psychologic and social points of view the educational opportunities of the rural secondary school are insufficient and

[1] This statement is based upon figures from a forthcoming study by W. S. Gaumnitz, U. S. Office of Education.

inadequate. This phase of the problem of the reorganization of rural secondary schools is serious.

A second phase of the problem is concerned with providing continuity of educational experiences for the rural child, so that he can advance from the elementary school into and through the secondary school without unnecessary breaks and obstacles and can successfully perform his work each year.

Rural High School Enrollment Low

Studies have shown rather definitely that the percentage of farm populations of high school age enrolled in high school is markedly lower than that of urban populations. Windes[1] found it to be approximately 29 per cent for rural populations of ages from fifteen to nineteen, as compared with 44 per cent for urban populations in the same states. In part the relatively small percentage in rural areas is due to the fact that many boys and girls are not within the zone of influence of a high school and in part undoubtedly to the lack of articulation between the elementary school they have attended and the high school to which they must go. In part also it is probably due to the limited academic character of the training offered by the rural high school, little suited as it is to the abilities, interests or purposes of a considerable proportion of its potential pupil population.

The development of the junior high school idea, with its emphasis upon the articulation of elementary and secondary education and an extended period of secondary education adapted to the needs of the adolescent at each stage of his development, has practically revolutionized our educational system. In some of its aspects the junior high school idea has been adopted in 10 to 12 per cent of the secondary schools in rural communities but too often with respect to its less fundamental features. Frequently departmentalization of the seventh and eighth grades and partial promotion by subjects have represented the reorganization effected, with little or no change in the curriculum or methods of teaching. Pupil guidance, exploratory work, socialized methods and pupil participation in government, those fundamental concepts of the idea, have not as yet become an integral part of rural secondary education. Provision for individual differences in ability is still largely undeveloped for children in rural areas as is any definitely organized system of guidance.

Enough studies have already been made to show conclusively that the 6-3-3 plan as developed in cities, with segregated junior schools, is unsuited to small communities. The junior-senior high school or the six-year secondary school seems to promise much more, for the larger rural communities at least. Undoubtedly the essential features of the junior high school idea can be advantageously used in rural secondary education if it is intelligently modified to suit the peculiar and differing conditions under which the schools must operate. Careful study must be made of the junior high school plan of organization and its basic characteristics and functions, with reference to its adaptation to rural needs and conditions.

Another phase of the problem of reorganization and closely linked with the other phases discussed is the development of rural secondary school units better suited to modern conditions and needs. It is evident that a high school of twenty-five to fifty or even seventy-five pupils with a staff of two to four teachers cannot realize all the objectives of modern secondary education. Because of the requirements of accessibility it may be necessary in some more or less isolated communities to maintain such schools. Generally speaking, however, the average size of the rural secondary schools must be increased if they are to have staffs and facilities, such as libraries, laboratories, shops, gymnasiums, auditoriums and the other forms of equipment adequate for providing secondary school training to meet the diverse needs of their pupil populations and the increasing demands upon the secondary school.

Larger School Units Are Needed

In some sections the best solution may be one central secondary school serving an area of considerable size; in others it may be a central senior high school with a group of contributory junior high schools all forming a single system of secondary education. At all events, the small, more or less independent district high school is becoming outgrown. Consolidation and centralization into larger units must come if the youth in rural areas are to enjoy educational opportunities in any degree comparable to those afforded in large urban schools. If these larger units are to be developed it is desirable that careful scientific study be made of rural areas on a statewide scale, with the purpose of setting up the boundaries of secondary school units and determining the types of schools that should be established best to serve the educational needs of rural boys and girls in these reorganized units.

It seems probable also that as the junior college idea develops and as junior colleges are established for rural and village youth not only senior

[1] Windes, E. E., High School Education of the Farm Population in Selected States, U. S. Bureau of Education Bul. No. 6, 1925.

high school units but junior college units or regions will need to be laid out on a statewide basis. It is likewise unthinkable that vocational training on the secondary level will come to mean more in rural schools than curricula in agriculture and homemaking and that there will be provided regional schools or departments for other special vocational groups not sufficiently large in any one school to justify the special instruction and equipment needed. These special developments would offer still another complex phase of the problem of the reorganization of rural secondary education.

Wherein Rural Teaching Is Lacking

The problem of efficient instruction in the rural secondary school is a difficult one. It is a problem of teachers, teaching load, teacher training and experience, tenure, teaching facilities in the way of materials and equipment and supervision. Practically all studies of instruction in rural high schools have resulted in the conclusion that it is formal and abstract. Often it lacks definiteness and immediacy of aim and is based almost entirely upon a single textbook. The modern types of unit organization of subject matter and modification of content and method to suit pupils of different grades of ability are usually lacking. Rufi,[1] in his study of small high schools, came to the conclusion with regard to instruction that it was "conservative to say that 95 per cent of all the material presented and studied in all of the courses in all of these schools is found between the covers of the textbooks used. Not one recitation was found in which reference or supplementary material played a dominant part . . . . No cases were found where the teacher either urged, expected or required the brighter pupils to do work not assigned to the entire group."

Many factors are operating to make instruction in the rural secondary school formal and abstract. Library facilities are often limited, especially in the smaller schools, and are unsuited to the needs of pupils and teachers. Frequently the teachers do not have access to well developed courses of study to serve as guides to their work. Little material is available that will help the teachers discover and organize the teaching materials in the local environment of the school.

While the pupil load of the teacher in the rural secondary school is usually small, the numbers of periods of teaching and of subjects taught are usually large. The diversity of subjects handled by the teacher makes specialization impossible and makes heavy demands upon her in the way of daily preparation if the teaching is to be vital and well planned. To make the matter more serious teachers are often required to give instruction in subjects in which they have had little or no training either in content or method. Clifton[1] found that in small secondary schools in Ohio 42 per cent of the teachers of mathematics and 26.5 per cent of the teachers of social sciences had neither majored nor minored in those subjects. Similar facts have been shown by other studies of small high schools.

Another factor of importance in the matter of instruction is that of the teachers' experience and tenure in the rural secondary schools. All studies have shown that both experience and tenure are less in the small secondary schools than in the large schools. Clifton found that the median of total teaching experience of teachers in schools with enrollments under fifty was approximately three years, and that over one-half of the teachers were teaching their first year in the school in which they then were. Combs[2] gives the rate of turnover of teachers in the groups of high schools in Virginia with enrollments under 150 as 53 to 55 per cent each year. Other studies have shown similar figures for the small high schools of other states. One of the serious phases of the problem of instruction in rural secondary schools is clearly concerned with increasing the teacher tenure in those schools. At the present time they are too frequently the training schools for the urban high schools.

Is the Principal at Fault?

Among the other handicaps in the rural secondary school is the lack of close effective supervision of instruction. Unfortunately, supervision of this type is at present not generally available to the teachers of rural secondary schools. The principal is usually responsible for a heavy teaching schedule in addition to his various administrative duties. Often he has little or no clerical assistance for the routine work of his office. Much of his available time is necessarily devoted to the direction and supervision of pupil activities both in the high school and in the elementary school of which he is often in charge. Consequently, the time at his disposal for the supervision and improvement of instruction is extremely limited. Often he does not have the training needed for carrying out an adequate program of supervision of a constructive type even if he has the time for it.

State supervision is too infrequent and remote from the local conditions to be of much genuine value in the improvement of instruction in the rural high school. As a result, the rural sec-

[1] Rufi, John, The Small High School.

[1] Clifton, John L., The Small Secondary School in Ohio.
[2] Combs, M. J., Efficiency in Relation to Size of High Schools.

ondary school where supervision is most needed is least well provided with it. Some way must be found of providing expert intimate supervision of instruction in the rural secondary school if its teachers are to be professionally alive and if instruction is to be effectively carried on.

Planning the Rural Curriculum

The problem of the curriculum is one of the most pressing in rural secondary education. The rural high school has been and is to a large extent a college preparatory institution. In part this is due to the influence of college entrance requirements and in part, undoubtedly, to the lack of progressive leadership in the rural high school. In attempting to prepare for college the small proportion of pupils likely to go to college the small high school has utilized all its energy and facilities and has as a result been unable adequately to serve its other groups of pupils. Consequently it has commonly afforded training only in the more traditional academic subjects. In fact it has often gone beyond college demands in following the narrow traditional path. Its objectives, as far as they have been recognized, have been of the deferred type and preparatory in character.

Usually the programs of rural secondary schools are sadly deficient in health education and in the phases of training that promote worthy home membership or that bear upon the development of vocational intelligence and understanding. In civic education and training for leisure the work has been largely lacking in genuine functional values because of its formal nature and its remoteness from the institutions and the life situations known by rural boys and girls. Ancient history has been a much more common subject in the program of rural youth than any of the other phases of history or social science. Science, so valuable in understanding modern life, in many rural high schools has not received the attention to which it is entitled and has not been taught with reference to its values to the ordinary citizen in his everyday life situations. Music, the fine arts and practical arts have received little attention in the large majority of small high schools.

Meeting Rural Pupils' Needs

Ordinarily there are three large groups of pupils in the rural secondary school whose needs should be provided for. The first and largest group is usually made up of those who wish an introduction to a liberal training but who will not continue their education beyond the secondary school. The second group is composed of those who plan to go to college or some other institution of higher learning. The third group is made up of those who wish during their secondary school course to obtain some vocational training that will help them to become producers immediately after their high school work is completed. In the past, in the majority of small high schools only the second group has been cared for in a direct way. Progress has been made in the last few years in meeting the needs of some of the vocational group, but only to a limited extent.

The rural secondary school needs to define its purposes and objectives in a more definite way than it has ever done before. It needs to analyze its responsibility to rural youth and modern life and to revamp its program of studies to serve effectively and adequately the common needs of its total pupil population. After this has been done, whatever facilities it has left should be devoted to serving the special groups through either differentiated curricula or through variables introduced into the program to meet a definite need as indicated by scientific study.

One of the serious problems in the rural secondary school is that of curriculum revision. Large cities are able to carry on over a period of years an extensive program of curriculum revision. Such a program at present is impossible in a rural secondary school because of lack of time and funds and because of lack of leaders trained in curriculum making.

Curriculum Specialists Are Needed

If rural high schools are to have modern effective curricula, some means must be found by which cooperative programs of curriculum experimentation and revision can be carried on for the secondary schools. Something is being accomplished by a few of the stronger and more progressive counties over the country. Perhaps the only effective way will be through programs planned for regions of a state with curriculum specialists to plan and direct the work.

Scientific study of the problems of rural secondary education to-day is seriously needed. While it has received increased attention in its more general aspects during the last decade, the rural secondary school is still the Cinderella of secondary schools and is largely overshadowed by the larger and more prosperous urban secondary schools. One of its problems is to attract the attention of a sufficient number of well trained scientific students of education who will study, analyze and diagnose its deficiencies and possibilities and work constructively for its improvement in the light of the data obtained and in accordance with the modern conception of secondary education in a democracy.

A Champion School Band of Dixie

The high school band of Lenoir, N. C., famous throughout the Southland, offers an excellent example of what can be done with an enthusiastic student group and a cooperative community

By JAMES C. HARPER, Director, Lenoir High School Band, Lenoir, N. C.

THE school band spreads enthusiasm but it also uses enthusiasm for its own motive power. Without this precious ingredient all else is wasted. Give the school band a leader with even mediocre musical ability and training but with a plentiful supply of contagious enthusiasm, and it will be a going concern. If his musical talent and professional training are better than that, the results will be proportionally increased.

The school band movement reached the Southern states comparatively late compared to many other sections of the country. For this reason the high school band in Lenoir, N. C., is something of a pioneer in its section and rather in the "old timer" class although it was founded in March, 1924. It started with a burst of enthusiasm which has grown rather than diminished with the years, and to this enthusiasm it owes all that it has been able to accomplish. In this case the enthusiasm is as much due to the pupils as to the director.

The American Legion Post in Lenoir owned a set of band instruments that were becoming useless when the post's best players found employment in other cities and other members wished to engage the efforts of the organization in another direction. The instruments were donated to the high school, and the Lenoir High School Band is the result.

For the first year or two a member of the American Legion Post directed the new band. Later the school supplied a director, furnished a room for practice and for the storage of instruments and maintained an insurance policy on the instruments themselves. The other funds for the support of the organization have been raised by the band itself and by donations from its friends. Enthusiasm helps there, too. With a student group in the high school of about 250, more than half of whom are girls, the band numbers about sixty and is still growing. These players are boys, since it has been found that concert trips, marching for football games and similar activities are simplified if the players are boys.

The school authorities were not particularly enthusiastic when the band was first proposed. They felt that it might mean new complications in many ways, such as added responsibility for

damage to costly instruments, and especially damage to thorough classroom work. But they were won over and are now highly pleased with the band and all that pertains to it.

All band practice was set for a time outside of school hours and certain nights each week were set aside for rehearsal. Often time was found to coach individual pupils or groups after school, but the pupils had no notion of stopping with that. They would arrive at the school hours before opening time and as soon as the janitor would let them inside the building they had their instruments and were practicing away for dear life. As soon as school was closed for the day the boys resumed practice, and when they went home they took their band instruments with them. Such sustained enthusiasm must bring results, and that is what it did in Lenoir. At the earliest possible date a concert was given, and the audience, which had come prepared charitably to overlook the poor playing of beginners, went home fired with the same type of enthusiasm that had characterized the boys.

Poor and Rich Have Equal Chance

The gate receipts from all concerts and other engagements were used for the purchase of additional instruments and other equipment. Each engagement helped to make the next one better. In addition, the band helped to purchase a drop curtain for the school auditorium stage. Money assessments on the band members were rigidly held down even when funds for band purposes were desperately needed. It is a principle of the organization that hard work and faithfulness are the only essentials of band membership, and the poor pupil has the same chance as the richest except that the poor pupil must sometimes wait for an instrument owned by the band to become vacant before he can enter, while the wealthier pupil may purchase an instrument of his own if he will select some instrument needed by the band at the time. This, however, merely gives him the chance to start in the organization. Neither pupil would be permitted to remain unless his work were faithful and in keeping with the best traditions of the band's history.

Any pupil may leave the band at any time he wishes, but if he does he is not eligible to reenter unless he is leaving the school entirely or unless he is especially excused with the understanding that he may return. Naturally, this makes the pupils unwilling to leave the band and they work diligently to hold their places. A long waiting list of pupils who wish to enter the band is maintained and preferential places on this list are granted to pupils who have had or are taking music lessons on some instrument. This serves to prepare them in the foundations of music before they enter the band. It also eliminates the lazy pupils.

An early investment was in the purchase of uniforms, and no expenditure ever brought greater or more immediate returns. The waiting list immediately lengthened and many of the impatient pupils bought instruments of their own. The effect on the audiences was also quite noticeable, and favorable reports were heard on all sides. More than one letter of commendation was received from state officials of North Carolina commenting on the splendid appearance of the band members in their uniforms. Boys in the band gained a new pride in the organization and practiced more diligently than ever.

Lenoir entered the first of the North Carolina State High School Music Contests that are held in Greensboro each year under the auspices of the North Carolina College for Women and the State Music Supervisors' Association. The results were so satisfactory that Lenoir has been in every state band contest since that time. It won first place in its class in every contest it entered until the 1929 contest when it petitioned for the privilege of playing in a class higher than its own. It was entered in Class A with schools, many of which were ten times the size of the Lenoir High School. Even in this higher classification the band was accorded third place, defeating the bands from the high schools of Asheville, High Point and Raleigh, and losing to Greensboro and Winston-Salem by a narrow margin.

A Valuable Community Asset

The band has always proved to be a valuable community asset. It has helped the Chamber of Commerce welcome distinguished visitors to the city; it has drilled with the National Guard and American Legion units; it has accompanied to conventions the Kiwanis Club and other local civic bodies and has helped dedicate tablets, bridges, war memorials and buildings. It has been invited by almost all the North Carolina colleges to attend their largest athletic events. In this way it has not only created a standing for graduates of the Lenoir High School when they enter college, and especially for band members, but it has advertised Lenoir in a way helpful to the city. Doubtless few organizations have done so much along this line.

Of course all of these activities serve to keep up the enthusiasm of the band members, and such ventures as playing for the performance and parade of a circus that visited the city, going on

concert tours, broadcasting by radio, appearing in moving pictures, playing for the automobile races in Charlotte and the annual Rhododendron Festival in Asheville, all mark milestones in the matter of keeping up their enthusiasm.

Nor have the band activities damaged classroom work. An examination of the scholastic standing of the band over the last five years as compared to that of the student group generally shows the band members in the upper 25 per cent of the grades. In a group of fifty to sixty pupils there will be some variation, but the state contest rules require that participants must be passing in at least three subjects. So few band members in Lenoir have ever been eliminated on this score that checking up on their eligibility is a mere formality. These pupils would doubtless have ranked high in their classes if they had not joined the band, but the band has certainly not prevented their maintaining this standard and in some cases it has manifestly acted as a stimulant.

The boys of the band have always grasped every opportunity to help other schools that were organizing school bands and orchestras. Many near-by schools have used a concert by the Lenoir organization to arouse the enthusiasm necessary for inaugurating their own movements. Others have asked for advice and suggestions. Many band members have gone to rural schools to coach beginning bands or to play in bands not yet far enough along for stability and confidence. Many members have become leaders of bands and orchestras when they went to college. The North Carolina college bands are keenly alive to the value of the material coming from Lenoir and are actively cultivating it.

Many school superintendents and principals ask for information as to what methods work best in organizing and maintaining bands and orchestras. Naturally, the answer depends largely on local conditions. The personality and capability of the leaders, the funds available, the size of the student body to draw from and the time required of the pupils by other activities, the question of rehearsal time and school credits for band and orchestra work are a few of the many things that might change the method of procedure.

If funds are scarce or if the sentiment of the community or student body is cool or skeptical it is often best for the school to begin with a brass quartet and play for some time with this group before trying to organize a band. This allows the leader to give more individual attention to the players than is possible when too much inexperienced material comes to him at once. As a result there are not so many blunderers to confuse other players in the early stages. Since a large library of material is available for such a group, it can soon begin to see the results of its own work. Later a second brass quartet with slightly different instrumentation may be started. A third quartet, quintet or sextet composed of saxophones or clarinets may next be added and before long these groups may be combined to start a band. This plan allows the gradual use of funds and more attention to individual beginners, which are often valuable points to consider.

Another good way to begin is with a drum and bugle corps instead of a band. This allows larger numbers of pupils on each kind of instrument and hastens instruction. The instruments used also cost less and are more quickly mastered. For drill and marching purposes the drum and bugle

The Lenoir High School band is a valuable community asset. It has played for distinguished visitors; it has drilled with the National Guard and it has helped at the dedication of civic memorials.

corps is almost as effective as a band and it can quickly make itself valuable to the school athletic teams and other school oragnizations. If the drums, fifes and bugles are carefully taught and the pupils trained to read by note in playing their parts, a good foundation is laid which can easily and quickly be used in building a band. Some schools use the drum and bugle organization in the grammar grades and the players so trained then play in the bands and orchestras of junior and senior high schools.

Cheap instruments are poor economy. It is far better to get fewer instruments and better ones or to purchase used and rebuilt instruments of higher grade. A pupil has enough work to learn to play an instrument without being handicapped with the defects of a poor one. Too often this causes unnecessary discouragement.

Such matters are facts which every school band director can match from his own experience. Lenoir claims no monopoly on them. We tell of our experience because that is the one we know most about. Good school bands and orchestras will never come with the mere waving of a wand nor will they maintain their grade of work by that method. Both pupil and teacher must be willing to sacrifice and keep on sacrificing. Wherever there is a good school band it is because somebody did a great deal of hard and patient work. However, it is work with a great reward.

No training can open more doors to the boy who leaves high school for college or a job in some other city than music can. Whether he plans to enter the professional field or simply to use his music as a social accomplishment he will find it valuable at every turn. John Burroughs has said that whenever we take on a new interest we open a new eye, and on that basis alone the school music has produced enough happiness to outweigh its cost many times over.

A Course for Custodians and What It Attempts to Do

The circular announcing a course of training for school and public building custodians offered at the Colorado State Teachers College contains excellent points for consideration:

"Custodians should know how to allay dust and disease germs—not stir them up; how to repair furniture; ventilate a building; care for school grounds; oil floors; clean blackboards; care for toilets and rest rooms, all to the end that the school building is a healthy place for children to spend most of their time in. They should know how to fire a furnace or stoke a boiler—not simply shovel coal. Many school districts have spent hundreds of thousands of dollars for coal that produced no heat, because the janitor didn't know how to handle the heating plant."

School boards and administrators are advised of the value of training for custodians: "Among janitors of approximately the same degree of willingness to serve, some render an efficient service while others are near failures. Right training will improve the methods of your inefficient but willing janitor. Contact with other competent janitors and opportunities to visit such janitors in their own schools where a high class service is being rendered will inspire your janitor to more efficient service. Ideals of better service will be emphasized. How to economize time and effort and at the same time improve the quality of work will be demonstrated.

"Your janitor will see the best method yet developed for washing blackboards, scrubbing floors, and repairing certain fixtures. Your janitor will be taken to the furnace room and there shown how to fire and how to regulate drafts, so that he may annually save to your community at least the amount of his salary. Sweeping compounds, brooms, brushes, oils and other janitorial supplies will be exhibited at the school. Instructors will show how and under what conditions to use various materials and tools. Moving pictures will depict methods of firing and cleaning. Your janitors will visit school buildings in operation that are being cared for in the most scientific and economical manner."

A Plan That Promotes a High Average of Attendance

A plan that has had notable success in promoting a high average of attendance in the schools of Butler County, Ohio, is the one that is used by J. W. Fichter, superintendent of schools there. The average attendance for the year 1929-30 in Butler county was 94.8 per cent.

The plan is as follows:

A trophy is offered, and the school having the highest percentage of attendance for the month is permitted to have the trophy in its possession during the following month.

The names of the rooms having perfect attendance each week are published in the daily newspapers.

The average monthly attendance of each school is published in the newspapers.

Perfect attendance certificates are awarded to pupils who are neither absent nor tardy during the year.

Schoolhouse Planning:
Forecasting Population Growth

The general prognostications in this article will be of value in setting possible limits to the development of the school plant program

By ARTHUR B. MOEHLMAN, Professor of School Administration and Supervision, School of Education, University of Michigan

AFTER a detailed sociologic and economic survey has been made of the community in which a school plant program is being developed, it is possible to begin work upon a study of future growth possibilities.

This activity may be divided into three groups, each of which is influenced by a somewhat different set of variables. They include (1) forecasting general growth, (2) forecasting total school population, and (3) forecasting the probable school membership. Each of these divisions has two further aspects, (a) the long range estimate of the probable numbers twenty or thirty years in the future, and (b) the short range estimate of from three to five years, within arbitrarily determined school plant building districts, upon which the rate of physical plant development must be based.

The general prognostication or long range estimating of future growth in any community must be considered solely as the background or the broad frame that surrounds the picture. It

Table I—Computation to Determine *k*

Year	*Population*	*Logs*	*Sum of Logs*	*△1*	*△2*
1920	65,651	4.81724			
1910	45,401	4.65707	13.96639		
1900	31,051	4.49208			
				1.43222	
1890	23,584	4.37262			
1880	13,129	4.11823	12.53417		—1.05348
1870	11,049	4.04332			
				2.4856	
1860	6,579	3.82471			
1850	2,093	3.32077	10.04857		
1840	800	2.90309			

$$\log k = \frac{1}{3}\left[10.04857 - \frac{(2.48560)^2}{-1.05348} \right]$$

$$= \frac{1}{3}\left[10.04857 + \frac{6.17816}{1.05348} \right]$$

$$= \frac{10.04857 + 5.86512}{3}$$

$$\log k = 5.304561$$

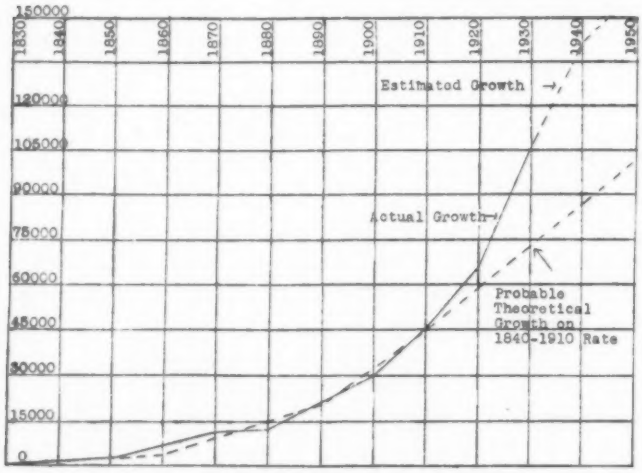
k (maximum population) = 201,633

TABLE III—PROBABLE RATE OF GROWTH DURING NEXT TWENTY YEARS

Year	*Isochrons*	*Per Cent of Maturity*	*Probable Population*	*Actual Population*
1950	41.37	82.1	162,000	.....
1940	36.33	70.4	142,000	.....
1929	31.29	53.4	.....	107,631
1920	26.25	32.6	.....	65,651

furnishes a general index upon which general plans for plant extension may be safely laid upon paper; it is the means through which the story of the future may be sketched in bold outline. Under all conditions the actual progressive achievement of this program should proceed only upon the basis of established fact. Actual building must be based upon short range detailed studies of conditions within each individual building district.

While careful technique in general estimating may result finally in little difference between the total program of predicted needs and the actual achievement of the program, the rate and sectional development may be entirely different from that predicted at the time of preparing the general program. It is essential that these differences be appreciated in the interests of both economy and common sense and that the use of the different methods of forecasting be considered only in terms of their specific validities. Any long time forecast, in the light of our population fluidity and our industrial conditions, is too much subject to change for immediate investment consideration. The location and erection of buildings to anticipate rather than to meet existing needs can hardly be defended.



This chart shows graphically the estimated and the actual population growths.

The growth of any community depends upon a number of intricate and complicated variables over which we have little if any control. The immediate basic variables are those related to economics or making a living. The present and future conditions of industry, including changes affected by taste, economic location, inventions, power and transportation, are extremely vital. No one knows the answer with even a fair degree of certainty. The second group of variables is social. In this group are included the cultural composition of population, immigration, the standard of living, the return to labor, the limitation of families, either through nonmarriage, deferred marriage or the use of contraceptives, and the incidence of survival. The third group relates to land utilization and population massing. Centralization of population within corporate limits or a thinner scattering over suburban areas will play an important rôle.

Rate of Increase Is Declining

Some of these factors have already come into evidence since the limitation of immigration and the World War. In 1928, according to Thompson,[1] the crude rate of natural increase was only about 7 per thousand per year, or one-half of what it was in 1913. During the next twenty years, the true rate of increase, now reckoned as 2.3 per thousand per year by the Metropolitan Life Insurance Company and even lower by the Scripps Foundation, may decline so that within thirty or forty years it is possible that there may be no natural increase and a stationary population.

While these factors vitally affect the country as a whole, they may also be applied by analysis to any given local situation. Local economic stimulus may for a time overbalance the general factors, such as the continued growth of cities in accordance with mathematical assumptions, at the expense of the rural districts. While these factors probably will not immediately affect any school plant program situation, they must be understood and considered in the solution of any problem.

[1] Science News Letter 17: 469, p. 211.

There are numerous methods for determining general population growth. They include the methods of Burgess, Pearl, Carver, Courtis, the United States Census Bureau, the American Telephone and Telegraph Company, and several other nonmathematical or pseudomathematical practices. My preference is the Gompertz formula, first introduced in 1826 as a law of human mortality. A descriptive application of this method may be of value.

In studying the future possibilities of growth in the city of Drocar, a growing industrial center, nine series of data based upon the United States census were available. In this case, it was assumed that the Gompertz Law of Growth applied. This curve of growth is expressed by the formula $y = kg^{c^x}$.

In this formula y represents population at time x and k represents the maximum population or limit which the curve of development approaches; g and c are two constants and x is time. The method of computation used follows the general plan developed by Prof. Harry C. Carver, University of Michigan.

How Growth Is Estimated

Having determined k as 201,633 (Table I) the next step is to find the percentage which each population was of the total. The calculations are shown in Table II.

These percentages were then changed into isochrons, using the method developed by Prof. Stuart A. Courtis, University of Michigan. This was accomplished as follows: The isochrons for the years 1840 and 1910 were taken as the end points as representing the most uniform tendency over the total span of years. The difference between these two isochrons (11.37), divided by the span of (seventy) years gave 0.162+, which is the theoretical rate of growth in isochrons per year.

The next step is to find the starting point in isochrons of the curve of growth. The year 1840 was multiplied by 0.162 +, the annual rate of growth in isochrons, giving 298.08 as the isochronic value of the population at the year 1840. The actual value, however, was 12.40. The difference between these two values, or —285.68, is the isochronic value of the starting point, using zero A.D. as the origin of the curve. The equation of the curve accordingly is as follows:

$$y = 201{,}633 = [0.162 + t - 285.68]$$
$$y = [0.162t - 285.68]$$
$$y = [298.08 - 285.68]$$
$$y = 12.40$$

In estimating population by this equation the annual rate of growth was multiplied by ten years to secure the rate per decade. The rate per decade (1.62 +) was then added to the 1840 isochron (12.40) and repeated in each decade by adding 1.62 + to the isochron for the preceding decade to secure the theoretical isochronic value for each decade of the period between 1840 and 1910. The results are shown in Table II.

The 1930 population, based upon an extension of the general tendency of growth between 1840 and 1910, is 71,983.

The 1929 estimated population, within the present corporate limits of Drocar, is 93,800, and the total population within the Drocar area is 107,631, as estimated by the chamber of commerce. Since this population immediately adjacent to

TABLE II—THEORETICAL AND ACTUAL POPULATION

Maximum = 201,633

Year	*Isochrons*	*Per Cent of Maximum*	*Theoretical Population*	*Actual Population*	*Difference*
1950	30.26	49.3	99,405	.....	.....
1940	28.64	42.7	86,097	.....	.....
1930	27.02	35.9	71,983	.....	.....
1920	25.39	29.0	58,675	65,651	—6,976
1910	23.77	22.5	44,467	45,401	— 934
1900	22.14	16.5	33,269	31,051	2,218
1890	20.52	11.4	22,986	23,584	— 598
1880	18.90	7.3	14,719	13,129	1,590
1870	17.27	4.3	8,670	11,049	—2,379
1860	15.65	2.2	4,436	6,679	—2,243
1850	14.02	1.0	2,016	2,093	— 77
1840	12.40	0.40	800	806	6
1830	.....			0	

PROPERTY OF
GRAND HAVEN PUBLIC SCHOOLS

present corporate limits has grown since 1920 and is economically related to the city of Drocar, it must be considered in the total.

An examination of the actual and theoretical growth since 1910 shows a large acceleration. The decade rate of growth up to 1910 was 1.62+ isochrons per decade. The theoretical population for 1920 was 58,675, while the actual population was 65,651. The actual rate of growth for these ten years was 2.48 isochrons. The theoretical population for 1930 is 71,983. The 1929 estimated total is 107,631.

It is therefore obvious that Drocar is now growing at a much greater rate than formerly and is probably moving towards an entirely different maximum from that indicated by the actual growth between 1840 and 1910. What this ultimate maximum will be is difficult to foretell, because only two points (1920 and 1929) are available for prediction purposes. This maximum may be 300,000 or 500,000. Under the existing conditions of change no prediction can be made reliable in terms of any maximum. It is safer to assume that the tendency of the past two decades will continue for the next two decades and, using the 201,633 maximum, to predict in terms of the growth of the past decade.

The difference between the population of 1920 and 1929, expressed in isochrons, is 5.04. This represents the present rate of growth. Projection of this rate over the next twenty years results in a probable (round numbers) 1940 population of 142,000 and a probable 1950 population of 162,000 (Table III).

For all practical purposes, it may therefore be assumed that the growth of Drocar will continue at its present rate and that the populations of the next two decades will be approximately 142,000 and 162,000, provided there are no changes in the present conditions of growth. This also agreed with the results of parallel social and economic surveys.

Child Accounting Records Poorly Kept

School population generally includes those ages determined by state law. It may vary from birth to twenty-one years to five to sixteen years. In this second forecasting problem, we are immediately confronted with a legal limitation upon the age groups included. There will consequently be much variation between total and school population relationships in the several states because of statute enactments.

The first step is to determine the legal limits. Relationship of total population to total census as taken from the school district records may be estimated. If data are available, the next step is to make an analysis of the relative numbers in each age group in the several census tabulations used. This procedure is seldom feasible without the expenditure of much time and money, since child accounting records, particularly those relating to the census, have not been well kept.

Fundamental Changes in Population Growth

For practical purposes, it might be assumed that trends in the relationship between total population and total school census, allowing for collection and computative errors, would be a fairly safe basis for estimation. In other words, if the total probable future population has been carefully estimated, the relationship between the two may be continued. While this is what is generally done in the development of the school plant program in field studies, owing to lack of exact data and money, it is by no means a correct assumption. The entire population should be considered by age groups over a period of time and the relationship of these age groups to the whole carefully studied. The Gompertz formula may be used for this purpose. Parallel studies of the racial composition, the age of marriage and the size of families by decades may be made and checked against the data developed mathematically. If this is carefully accomplished, many of our current estimates of probable conditions thirty to fifty years in the future might be found somewhat optimistic. There is little question that fundamental changes in population growth and in the relationship of age groups are taking place. While not apparent at present to the casual investigator, they should be studied more deeply for work of this nature. Until the basic records of local school districts are much more exact and fact revealing than they are at present, the validity of the field survey must be predicated and limited by this condition.

The variables affecting actual public school membership are numerous. They include the effectiveness of the compulsory education laws, the extent and richness of the instructional program, the adjustment of a school system to the individual needs of the children, the social composition of the population, the community tradition and the presence of nonpublic agencies. Statistically the procedure requires tabulation of membership for a period of at least ten years by administrative divisions, grades and schools. Retardation, progress and ability studies, social and economic analyses of membership and the progressive holding power of the schools are important correlative data. The trend of membership in relation to the school population and the progressive holding power, corrected for growth factors, may be

treated. If complete and accurate basic data are available, the probable trends may be established within the limits of accuracy in forecasting; if not, the margin of error will probably vary directly with chance and with the validity of the original data.

Every superintendent and specialist working on these problems in the field realizes the paucity of accurate data and the difficulty of estimating under the circumstances. All field studies of the past have been severely handicapped by this condition. In my own field experience, I have not yet found a single school district whose basic child accounting data were kept accurately enough to make forecasting possible except through assumption and the use of theoretical mathematics. The first problem confronting school districts and states to-day is a reorganization of their child accounting and record division so that reliable data will be available in the future.

If these three operations of long distance forecasting have been made as accurately as possible in terms of the economic and sociologic survey findings, existing data and statistical method, the school plant program study will furnish a general picture that sketches in bold outlines the probable economic and territorial expansion of the community; its probable future land utilization; the probable total population; the probable school population, and the probable total number of children who must be provided for by the public schools at given dates by administrative divisions. This is the true purpose of long distance forecasting. It should determine as accurately as possible the anticipated general growth and should indicate possibilities and problems in the light of a continuation of existing and obviously foreseen tendencies. It establishes the boundaries for broad planning, permitting the logical expansion of the administrative plan. It does not tell when or how to build a particular type of building. It does not indicate how large a specific building should be. A specific problem of progressive physical achievement must be determined by other methods which will be discussed in later issues of The NATION'S SCHOOLS.

Junior College Is Growing Rapidly

The rapid growth of the junior college in the United States is meeting a long felt need in higher education, David T. Blose, specialist in the division of statistics, stated orally at the Federal Office of Education recently.

Because of a widespread interest in the development of junior colleges, the Office of Education has just published an annotated bibliography, including 1,600 items, on this type of college. The bibliography, it was pointed out, was prepared by Prof. W. C. Eells, of Stanford University, under the auspices of the American Association of Junior Colleges.

Mr. Blose said that there are at present 177 junior colleges in the country. They are largely confined to cities and in a majority of instances are publicly supported.

The junior college, he explained, is planned to take over the first two years of the regular four-year type of college or university course. In European countries, the system of public education includes about as much as is done here in the public schools and in the first two years of college training.

The junior college tends to bridge over the gap and serve as a transition between the high school training and the independent research and initiative expected of the college student after his sophomore year, Mr. Blose stated. Furthermore, since the junior college is placed usually in the city, the high school graduate, unable to go to a distant state college or university, can live at home and continue his education at small cost.

The first junior college in the country was organized at Joliet, Ill., in 1902. There are now 34 in California alone, 28 in Iowa, 20 in Texas, and 10 in Kansas and Minnesota, respectively.

Northernmost College Aided by Federal Agencies

Federal agencies cooperate along many lines of research with the Alaska Agricultural College and School of Mines, the farthest-north college in the world, at Fairbanks, Alaska, according to information made available at the Department of the Interior.

The bureau of biological survey under cooperative arrangement with the college has made satisfactory progress with its studies in crossbreeding reindeer and caribou. It is also conducting feeding experiments with reindeer to determine the feasibility of "topping off" reindeer before the slaughtering season during later summer. Carrying capacity studies to determine actual acreage requirements of reindeer on various types of forage, and plant studies to ascertain the effect of climate on forage growth, have been initiated. In order to determine the digestive reaction of the reindeer to different natural forage types, digestive samples and forage samples are being collected for chemical analysis.

The NATION'S SCHOOLS

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Editorials

The County Superintendency as a Profession

IN A state in which the county superintendent of schools is elected locally by popular vote, fifty reigning superintendents were selected at random and questioned as to whether or not they had early made plans to engage in the superintendency of rural schools and had made professional preparation therefor.

Everyone of the fifty had been thrust into the office largely by accident. In each case a situation had arisen in the county that made it opportune for the incumbent of the office to stand for election in his county. Three of the fifty superintendents had not had experience in teaching for a number of years prior to their becoming superintendents. They had, as a matter of fact, been engaged in business utterly remote from superintending rural schools, but each had decided that the business in which he was engaged was not lucrative and that a county superintendent of schools would be certain at least of a modest stipend for his services, and would occupy a conspicuous and enviable place in the community.

Not one of the fifty superintendents had looked forward to remaining in the county superintendency during his active career. He had not deemed it of importance that he should engage in special professional study before entering upon his duties as a superintendent. When a vacancy occurred in the superintendency in his county, each correspondent decided that he would like to try the work for a while so he announced himself as a candidate and was elected. All but three of the fifty superintendents interviewed had had experience in teaching but not in administrative or supervisory work; neither had they regarded the county superintendency as a lifelong job or as a profession on a par with other professions requiring special training and perhaps special aptitude.

Readers of this note will agree that the rural school cannot be elevated out of its present backward position—there is not a competent student of rural education that does not agree that the one-room rural school is a laggard in American education—until the leaders whose duty it is to instruct, guide, encourage and inspire the teachers in rural schools are better prepared for their duties and are more eager and determined to be

genuine leaders than are some of the county superintendents in those states in which the superintendent gains his place by popular local election.

In states in which superintendents are chosen by county boards of education, it is certain that boards of education give more attention to the professional equipment of county superintendents whom they select for leadership in their respective counties than do the populace who chose superintendents by general election. There are probably exceptions to this rule, but there can be no doubt that it is the rule. Certain states are at this moment conducting a campaign for the purpose of establishing the county board of education method of administering the rural schools of a county. From the standpoint of selecting a capable leader, this plan should certainly be commended by educational people and carried into effect as soon as possible.

N·S

A Deserved Tribute to the Nestor of American Industry

A NEW public school in Detroit will bear the name of Dr. Albert E. Winship, that pioneer educator and journalist who has played so prominent a rôle for so long a time in studying educational advance and disseminating information concerning desirable modifications in educational procedures.

For almost the entire allotted span of human life, Doctor Winship has been a potent force in American education. It has been his mission primarily to take note of improvement in educational procedure in any town, city or state throughout the land, and then to tell about it so that all teachers might take advantage of the advance made by any one teacher. Doctor Winship has been on the trail of what is good in teaching. He has acted on the belief that the bad will be most readily and effectively overcome by holding up the good for emulation. More than anyone else he has been an educational optimist, both in praising what has already been achieved and in pointing the way to better things.

Doctor Winship has lived through several educational eras. He has seen and promoted the best in each era by pen and by tongue. Unlike most persons whose early educational experience was gained in the study and practice of older educational theories and procedures, Doctor Winship has always been in the front line trenches in every educational advance. Some of the men who were his colleagues a half century or more ago have been unable either to understand or to appreciate the newer, and particularly the scientific methods in education. Doctor Winship has approved, whereas most of his older associates have scoffed and condemned.

When the scientists showed by extensive investigations that the so-called doctrine of formal discipline was not sound and should be discarded as a basis for determining educational policies and methods, Doctor Winship cooperated in spreading the light and in helping administrators and teachers to modify their programs and practices in accordance with the newer psychological knowledge. He has followed the same plan with regard to educational measurements, breaking up the lock step in education, adjusting educational work to the needs of individual children, centering the work of the school around the child's interests and mode of development, introducing vocational subjects into the curriculum on a par with the traditional subjects, pruning older studies and enriching the curriculum with studies adapted to changing social conditions and encouraging permanent tenure for capable teachers. He has lent his voice and his pen to the support of every movement in American education that has been based on sound experience or data gained from scientific inquiry.

Educational people have in many ways shown their appreciation of Doctor Winship's service in the promotion of sound educational progress. He has been honored by testimonials of the regard and affection of teachers and administrators throughout the country. The latest honor bestowed upon him is perhaps the most significant and will be the most enduring.

N·S

Meeting the Cost of Education

FROM various sections of the country come lamentations regarding the attitude of boards of education toward much-needed expansion of educational opportunities and facilities. Certain organizations are disseminating the view that education is costing too much, that it is already a burden on the taxpayer and that instead of making additional appropriations for the schools, boards of education ought to adopt a program of curtailment. Already in some places teachers' salaries are being cut. The number of pupils in a classroom is being increased so that it will not be necessary to secure additional teachers in order to provide for an increasing school population. It is being said that our people cannot meet all the other civic requirements and continue to maintain such expensive educational establishments. It looks as though some of the state universities will be obliged to lop off departments

and dismiss instructors unless the financial committees of legislatures can be convinced that it is the duty of every state to provide free higher education for young people of the state who are eager for it and who are capable of pursuing such an education successfully.

It is apparent to those who have been studying the growing hostility toward our expanding educational program that some source of income other than general taxation will have to be discovered. Such a large proportion of the funds derived from general taxation is now being expended for the extension of good roads and for the building and maintenance of community playgrounds and for recreational institutions that a smaller proportion is now available in many communities for schools than was the case ten years ago. In some places there is violent opposition, fanned by special organizations, against increasing the rate of taxation, and if good roads, community centers, and civic improvements of all sorts are to receive an increasingly large percentage of income from taxes, then the schools must suffer. Expenditures for education will have to be curtailed unless sources of income other than general taxation can be tapped. Educational groups in a few states have already noted what is happening and they are at work upon the problem of finding funds that ought to pay something toward the extension and maintenance of public education but which have been escaping the attention of the tax assessor.

It is high time that every state had a special committee to study this problem of unearthing wealth that has lain concealed, in order that the schools may not become handicapped as other public enterprises claim an increasingly large proportion of money contributed by general taxation for the maintenance of public enterprises.

N·S

Which Is More Dangerous to Education—Politics or Wealth?

EVERY once in a while one reads or listens to a discussion of the menace of wealth in education. It is claimed that when a donor makes a gift of a million dollars, more or less, to an educational institution, he expects to have the right to control what is taught therein.

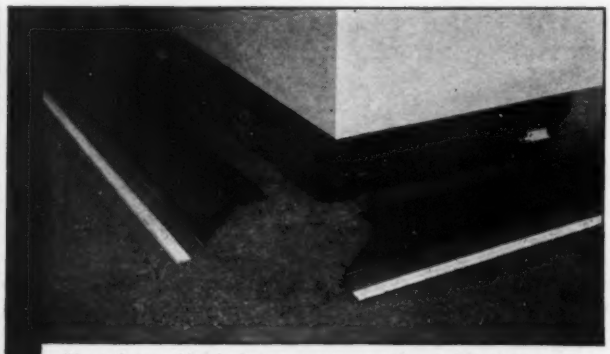
A charge was recently brought against an educational foundation that has given many millions to various educational enterprises, that for value received every beneficiary school or college made an implicit promise that courses of study would be administered and teachers selected in accordance with the wish of the grantor. Following an examination of the records and of the testimony of teachers the charge was found to be absolutely untrue so far, at any rate, as it related to several of the institutions and associations that have received help from the foundation. It would be surprising if some donors did not specify how their bequests were to be expended; but the statement that, taken as a whole, wealth is attempting to secure prejudiced teaching and research in return for its gifts of money, is not true.

But what about politics? As these lines are being written, the educational institutions in one state are being destroyed by political interference. The governor of Mississippi and his political cohorts have invaded all the state higher educational institutions and have slaughtered members of the faculties literally by the dozens. These institutions were all on the upgrade. Following an investigation, under a former governor, of the colleges and universities in Mississippi receiving state aid, recommendations were made for improvement so as to bring them into accord with modern educational developments and to make them serviceable to the people of Mississippi. They were all following programs worked out in accordance with the special needs of Mississippi. The present political administration has ruthlessly beheaded or demoted the leading men and women in all the educational institutions and has replaced them with political henchmen.

Three or four decades ago politicians were greedy in their eagerness to gain control over the schools and higher educational institutions in their respective localities. It has taken thirty or forty years to restrain the politicians and to get into their heads the idea that the people who maintain the schools will not tolerate political interference. Evidently we have not been as successful as we thought in holding the bloodthirsty politicians at bay. There has never been a more thoroughgoing political domination of education than is occurring at this moment in Mississippi. Within the last two or three years, other states have complained of the interference of politicians with the higher educational institutions. Washington and Kansas have been particularly vocal in their complaints against their respective governors and their political allies.

There is more danger to education in America from politics than from wealth. It may be that we need to keep watch of both to see that the schools, colleges and universities are left free to teach with an eye singled to the truth. But we need to be more wary of the politician than of the millionaire.

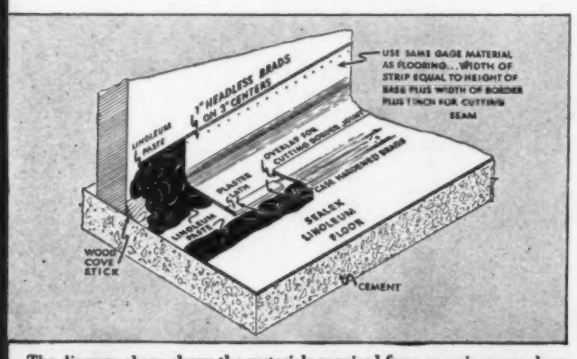
THINGS EVERY LINOLEUM CONTRACTOR DOESN'T KNOW



Materials assembled for laying one-piece cove-base and border in an "outside" corner. The cove-stick has been installed and Sealex Linoleum Paste has been applied on the wall.

Here we see the mechanic fixing the cove-base and border in place by means of headless brads, placed on 3" centers, 1/4" below top of base.

Picture shows mechanic completing the job, spreading linoleum paste under edge of the border and the patterned linoleum used for the floor.


USE SAME GAGE MATERIAL AS FLOORING... WIDTH OF STRIP EQUAL TO HEIGHT OF BASE PLUS WIDTH OF BORDER PLUS 1 INCH FOR CUTTING SEAM
1" HEADLESS BRADS ON 3" CENTERS
LINOLEUM PASTE
OVERLAP FOR CUTTING BORDER
CASE HARDENED BRADS
PLASTER
SEALEX LINOLEUM FLOOR
WOOD COVE STICK
CEMENT

The diagram above shows the materials required for a one-piece cove-base and border, and the mechanical details of assembly. The cove-stick is a piece of soft wood, triangular in shape, with 1½" legs rabbeted to a concave face. This method of construction gives a neat, sanitary effect at comparatively low cost. Available through Authorized Contractors of Bonded Floors.

THESE pictures show three steps in the installation of a *one-piece border and sanitary cove-base* in Sealex Linoleum. Constructing this as one unit is one of those fine points of craftsmanship that mark the difference between a good floor and a fine floor.

The one-piece base, border and cove, possesses certain definite points of superiority. It lends itself to a much greater variety of decorative effects. It makes possible a border of any width and in any color—as opposed to the strictly limited assortment of effects in the factory-made cove.

Furthermore, this Bonded Floors cove-and-border is structurally sounder than the old-style type. The number of cove cross-joints is reduced. It is less expensive to construct—and can readily be installed on the job by a skilled mechanic.

This one-piece border and cove-base was developed by the engineers of the Bonded Floors organization. We have described it in some detail because we consider it a typical example of the progressive flooring service offered by Authorized Contractors of Bonded Floors. May we send you the names of Authorized Contractors near you?

CONGOLEUM-NAIRN INC. . . *General Office:* KEARNY, NEW JERSEY

BONDED FLOORS

SEALEX LINOLEUM

Bonded Floors are floors of Sealex Linoleum and Sealex Treadlite Tile, backed by a Guaranty Bond issued by the U.S. Fidelity and Guaranty Company. Authorized Contractors of Bonded Floors are located in principal cities.

Managing School Lunch Rooms With a Centralized Financial Plan

The accounting system used in the management of Chicago's fifty school cafeterias should offer suggestions to superintendents in the operation of their lunch rooms on a sound business basis

By J. S. PARKER, Director of Research, The Nation's Schools

CENTRALIZED financial management of school lunch rooms in large cities has demonstrated its value. Although centralization in small cities will not have so many advantages as in the large school systems, nevertheless the methods of control used in the larger centers should prove helpful to all superintendents who wish to maintain an accurate check upon their school cafeterias.

Through the cooperation of Frances L. Swain, director of household arts, and of A. V. Webster, auditor of the lunch room division, Chicago Public Schools, The Nation's Schools is able to present an analysis of the system used in Chicago to control the financial operation of the city's school cafeterias. The data studied were those reported for the school year, 1927-28. During that year forty-six school lunch rooms were operated as follows:

Chicago Normal College	1
Crane Junior College and Technical High School	1
Senior high schools	18
Senior and junior high schools, combined	1
Branches of high schools, regular and prevocational	8
Junior high schools	13
Branch junior high schools	1
Continuation schools	3

Cafeterias have recently been opened in three

Gay cretonne draperies and a pot of flowers for each group of tables have transformed this school lunch room into a homelike place where the pupils can enjoy the meals served them.

AT CULVER

genuine WAX guards the floors

■ At the Academy—as at every academy—it is more important for 700 cadets to place their feet smartly and squarely on the floor than to observe cautious consideration for the element they march on. It is simply the duty of the quartermaster's department to see that the linoleum floors are capable of resisting this imminent destruction. At Culver genuine wax guards the barracks floors. Its protection absolute. Its history renowned. Its use simplicity itself.

JOHNSON'S WAX

Product of S. C. Johnson & Son, Racine, Wisconsin

■ A Johnson engineer will be glad to analyze *your* floor problems and submit a maintenance recommendation, without obligation.

LUNCH ROOM	FORM NO. L 11 BOARD OF EDUCATION CITY OF CHICAGO HIGH SCHOOL LUNCH ROOMS **MONTHLY REPORT**	DATE

BALANCE SHEET AS AT _____ 19____

ASSETS			LIABILITIES		
CASH IN BANK			ACCOUNTS PAYABLE		
PETTY CASH FUND			CENTRAL OFFICE ADVANCES		
SURPLUS CASH REMITTED TO CENTRAL OFFICE					
ACCOUNTS RECEIVABLE			WORKING FUND		
SUPPLIES ON HAND					
MOVABLE EQUIPMENT			SURPLUS		
APPRAISAL VALUE $_____			NET GAIN OR LOSS FOR PERIOD		
LESS RESERVE FOR			FROM _____ TO _____		
DEPRECIATION $_____					

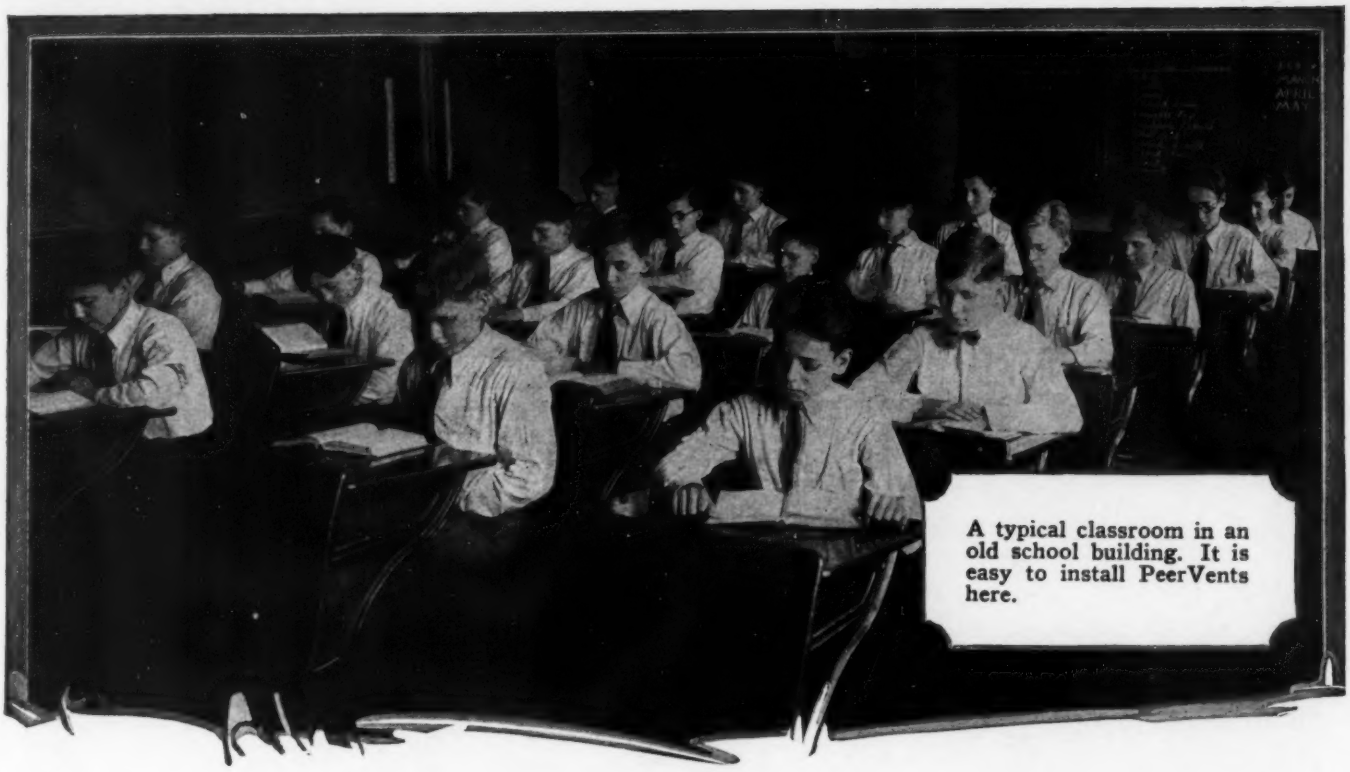
OPERATING STATEMENT FOR PERIOD FROM _____ TO _____ 19____

SUPPLIES ON HAND AS AT			SALES OF LUNCHES		
PURCHASES DURING PERIOD			SPECIAL PARTIES		
			MISCELLANEOUS FOOD SALES		
SUPPLIES ON HAND: CLOSING INVENTORY			SALES OF CANDY		
COST OF SUPPLIES USED			DISCOUNT		
WAGES			BANK INTEREST		
REGULAR HELPERS			MISCELLANEOUS RECEIPTS		
STUDENTS					
MANAGERS SALARY					
DEPRECIATION					
GAS, ICE, LAUNDRY			NET LOSS FOR PERIOD		
MISCELLANEOUS EXPENSES					
NET GAIN FOR PERIOD					

NET GAIN OR LOSS AS ABOVE			REMARKS:
NET GAIN OR LOSS AS PER PREVIOUS			
REPORT			
NET GAIN OR LOSS FOR MONTH			
ENDING _____			

CERTIFIED CORRECT:	AUDITED:	SUPERVISOR:
MANAGER	DATE	

The financial report that is rendered to the auditor every month by each manager of the various Chicago school lunch rooms is reproduced here. It consists of a balance sheet and an operating statement and from the various reports sent in the auditor prepares the consolidated balance and consolidated operating statement.



A typical classroom in an old school building. It is easy to install PeerVents here.

Schoolboards come back again and again for PeerVents

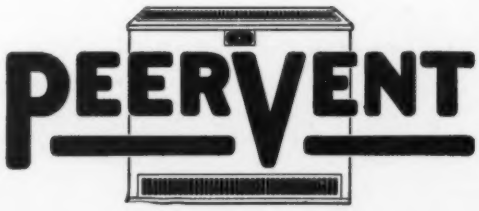
Once a schoolboard has tried out the PeerVent System, the service is found to be so satisfactory that invariably additional orders are placed and other installations are made.

A public school in Hackensack, New Jersey, built in 1914, was equipped throughout with PeerVents. Fifteen years later, or last year, a new school building was completed. The PeerVent System was again installed, so efficient and satisfactory were the original PeerVents.

In Lackawanna, New York, in 1923, Public School No. 3 was PeerVent equipped. In 1924 Public Schools No. 2 and No. 5 were so equipped. Finally in 1929, four new schools, the new High School, the Washington School, the Bethlehem School, and the Roosevelt School, were all completely equipped with the PeerVent System.

Repeat orders such as these are convincing proof of the satisfactory and efficient operation of the PeerVent System.

When planning your next school or when remodeling—for PeerVents can be installed in old buildings as well as new—investigate the New Improved PeerVent—Ask for a Peerless Engineer to call and discuss your plants.—He will have some valuable suggestions for you.



PEERLESS UNIT VENTILATION CO., Inc.
BRIDGEPORT, CONNECTICUT
Pioneers in Unit Ventilation
Resident Engineers in Principal Cities from Coast to Coast

This cafeteria kitchen is equipped with every sort of modern device for preparing palatable, nourishing food for the school children who eat in the lunch room.

junior high schools and in one senior high school, making the total number now in operation fifty. This study, however, covers only the forty-six lunch rooms that were operated during the entire school year of 1927-28. The scope of the business done in these lunch rooms is apparent from the following summary of conditions, as of July 1, 1928:

Number of school lunch rooms in operation	46
Number of operating days in the school year ended June 22, 1928	186
Number of lunches served during the school year ended June 22, 1928	5,705,090
Average price of lunches served	$0.1661
Daily average school attendance	82,217
Daily average lunch room patronage	30,672
Patronage percentage of daily average school attendance	37.65

No attempt is made to operate at a profit, although there is a comparatively small balance at the end of each year which is sufficient to ensure the prevention of losses. The average price of lunches served is a clear indication of the fact that the schools are able to provide nutritive lunches to the pupils at a cost below that of commercial establishments.

A judicious combination of centralization and decentralization in purchases is the foundation of the financial management of the lunch rooms. Each lunch room manager purchases all food supplies needed in her own cafeteria. Thus the dietary idiosyncrasies of particular neighborhoods may be catered to. In the purchase of certain staple supplies, managers receive the benefit of cooperative interchange of information con-

TABLE I—CONDENSED OPERATING STATEMENT, 1927-1928

Receipts	
Number of lunches served	5,705,090
Average price per lunch	$ 0.1661
Miscellaneous receipts	2,457.51
Discount on purchases	7,208.18
Sales:	
Lunches	946,733.14
Miscellaneous food	11,403.52
Parties	9,102.88
Candy	160,161.35
Total receipts	$1,137,066.58
Expenses	
Supplies used	$ 713,582.27
Salaries and wages	328,327.05
All other operating expense	51,659.89
Total expenses	$1,093,569.21
Net gain	$ 43,497.37

Washington Junior High School of Duluth

J. W. Meyer, Principal at the Microphone

S. G. Mooney, Superintendent of Electrical Instruction at Central Control Plant

One of the Class Rooms Equipped with Wright-DeCoster Reproducers

Duluth School Keeps Abreast of Modern Ideas in Educational Methods with Wright-DeCoster Reproducers

Every room in which students assemble in this big modern High School is equipped with Wright-DeCoster Reproducers connected with a complete double program, radio-phonograph and public address system. Six miles of wire connect the loud speakers to the central control plant.

The radio receivers bring the students radio programs and things of national interest to the pupils. The microphone enables the principal or any visitor of note to talk to any group or to all of the pupils in their class rooms.

The electric phonograph pickup furnishes music for assemblies and class plays and also for physical instruction in gymnasium or class rooms. In the auditorium and gymnasium the largest Wright-DeCoster Reproducers are used.

50 Class Rooms and Shops Wired

All of these class rooms will be equipped with Wright-DeCoster Hyflux Magnetic Speakers. This gives positive assurance of perfect reproduction of clearness and beauty of tone.

The Speaker of the Year

Write for complete information and address of nearest sales office

WRIGHT-DECOSTER, Inc. 2247 University Ave., St. Paul, Minn.

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Cable Address, Simontrice, New York

TABLE II—COMPARATIVE RECEIPTS BY PERCENTAGES, THREE YEARS

Source of Receipts	*1927-1928*	*1926-1927*	*1925-1926*
Sales of lunches	83.28	82.35	81.05
Sales of candy	14.08	14.12	14.22
Sales of miscellaneous food	1.00	0.69	1.96
Special luncheons	0.80	0.85	0.99
Discount on purchases	0.63	1.73	1.53
Interest	0.16	0.14	0.11
Miscellaneous receipts	0.06	0.12	0.12
Totals	100.00	100.00	100.00

cerning prices and quality. Thus some of the advantages of centralized purchasing are secured, although it is frankly admitted that this decentralized method of purchasing is preventing the maximum economy that would be possible with a completely centralized system of purchasing for all supplies in uniform use throughout the cafeterias.

How Teacher-Manager Comittees Function

An example of the way in which cooperative information is secured is shown in the work of teacher-manager committees. During the year studied, ten committees of teachers continued a detailed study of grades and brands of canned goods used in the lunch rooms. The committees tabulated the following information: condition of can, condition of contents as to flavor, odor, color, texture, presence of foreign substances and net weight of solid contents. The chief value of the data secured rests in the fact that they furnish a basis for the intelligent buying of futures.

The managers of the lunch rooms are teachers trained in home economics. They are experienced dietitians and, of course, possess executive ability and business judgment. Their salaries are paid partly out of lunch room receipts and partly by the board of education. The adjustment of salary portions between these two groups is made on the basis of time devoted to management as against time devoted to class work in home economics. Each manager is permitted to purchase movable equipment up to the value of $25 a month to replace obsolete equipment. To purchase quantities above this maximum, requisitions approved by the auditor of the lunch room division and the director of household arts are necessary.

Accurate inventory records are maintained. There is the usual perpetual inventory card showing quantities received, quantities issued, unit prices, total values, amount of balance and

TABLE III—COMPARATIVE COSTS BY PERCENTAGES, THREE YEARS

Item of Cost	*1927-1928*	*1926-1927*	*1925-1926*
Meats	8.97	8.72	9.00
Vegetables	4.50	4.82	5.75
Milk	8.99	9.23	8.84
Ice cream	9.69	9.95	9.28
Other foods	20.49	20.36	19.63
Candy	10.12	10.25	10.33
Managers' salaries	3.03	3.22	3.84
Regular help	22.86	22.12	21.36
Pupil help	2.07	2.07	2.06
Gas, ice, laundry	1.92	1.81	1.92
Depreciation	0.82	0.72	0.68
Administration salary	0.91	0.90	1.07
Administration expense	0.09	0.09	0.16
All other expense	1.71	1.78	1.54
Net gain	3.83	3.96	4.54
Totals	100.00	100.00	100.00

Old Ivory ...

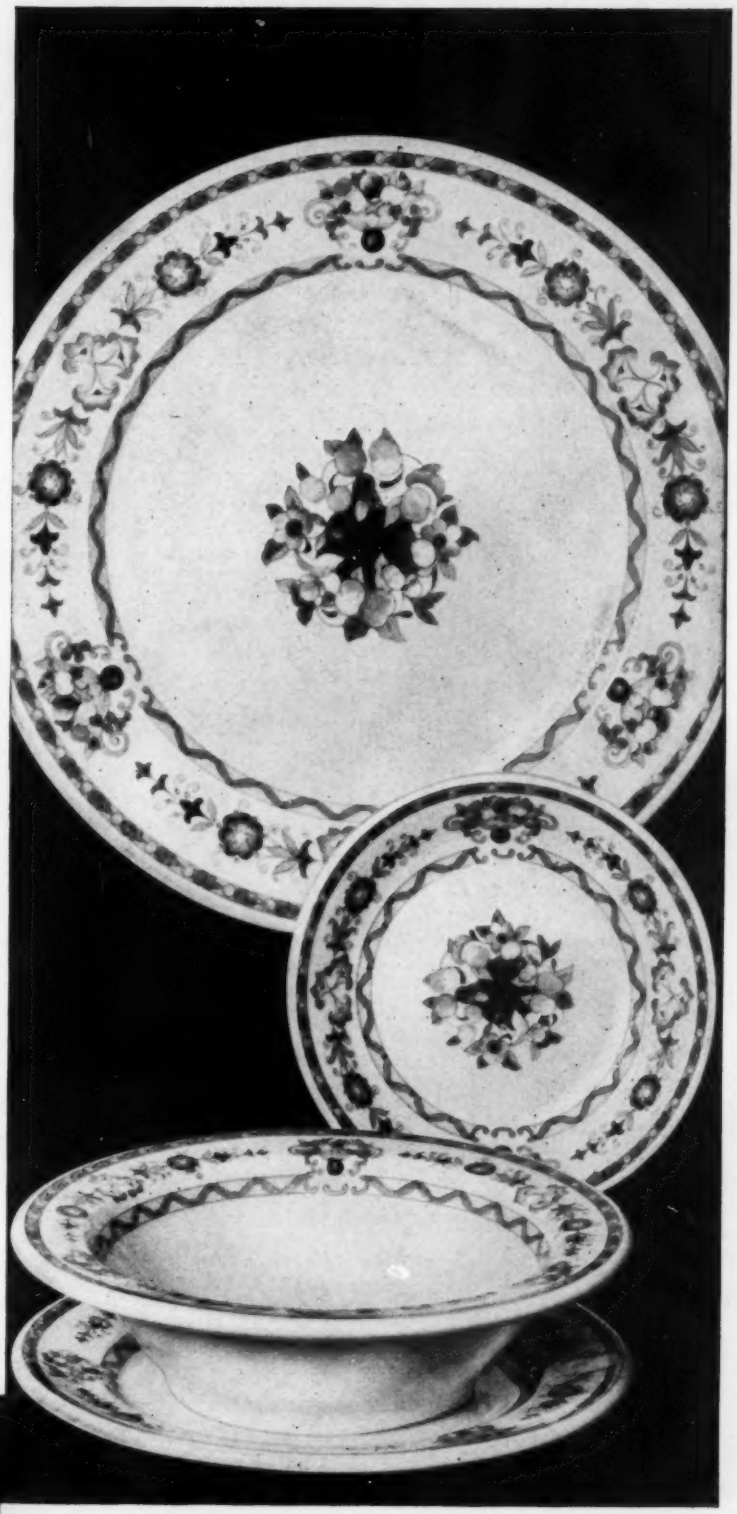
the practical ware for schools

Experienced educators know that school dining rooms are not merely "eating-places." Here friendships are cemented and that elusive thing called "school spirit" is born and prospers. Yet only if the atmosphere is favorable. And atmosphere, in any dining room, is largely a matter of the right china service.

Nowhere is a home-like china service more essential than in a school. Realizing this, the Onondaga Pottery perfected its Old Ivory. Inherently a quality ware, Old Ivory supplies a softly gleaming ground both for the rich variety of stock patterns and for the creation of special designs. Being vitrified, its breakage is low, and—because of unique production facilities—this minimum loss can always be replaced, or the service added to, quickly and economically. These features have placed Old Ivory in numberless schools and other representative institutions.

You can examine samples in a broad range of patterns, and obtain full information and prices, at nearly all institutional dealers. Or write direct to the Onondaga Pottery Company, Syracuse, New York.

Old Ivory
SYRACUSE CHINA



This pattern, in Old Ivory, was recently created for the Pittsburgh Athletic Club

SYRACUSE CHINA

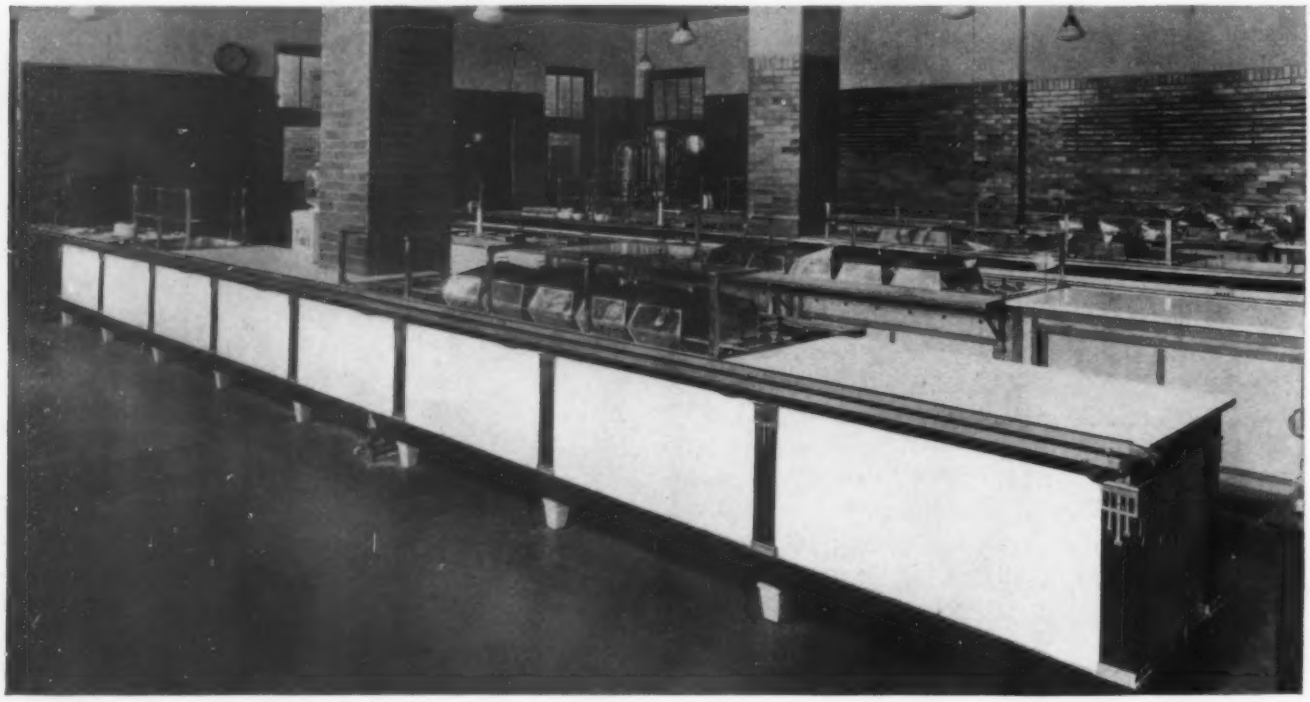
Made by Onondaga Pottery Company

value of balance. There is also a monthly inventory record which is sent to the central office. This lists the commodities on hand and their total value. The summary of this sheet shows food supplies in storage, left overs and broken quantities, total food supplies, candy, cleaning and miscellaneous supplies and the total value of supplies on hand. With a single exception this system serves well. A tendency to overstock on certain perishable supplies is apparent. As a result there is a noticeable effort to reduce inventories during May and June, with a consequent loss.

In the words of the lunch room auditor: "It is significant that for seven of the ten months of the school year there is a substantial advance in gain over last year's showing—which is legitimate by reason of the increased number of operating units—but that in May and June, 1928, losses of $3,914.69 and of $4,454.58, respectively, resulted as compared with the preceding year's record for the same months, which in turn gave a normal gain over the first year's record. It would seem that such a showing of loss could result only from a concerted effort to curtail an accumulation of surplus funds by a violent or reckless distribution of food materials."

It is believed that the cafeteria managers, by more careful inspection of their inventory records and by more careful buying during the spring months as a result of that inspection, can prevent such strained efforts to reduce inventories during the last two months of the year.

Supplementary to the monthly inventory reports are the financial reports. The financial report that is rendered to the auditor each month by each manager is reproduced here. It consists of a balance sheet and an operating statement. From these forty-six reports, the auditor prepares a consolidated balance sheet and a consolidated operating statement. He also compiles a condensed operating statement and a table of statistical data and of comparative costs. The condensed operating statement shows the exact standing of each cafeteria. From it interesting comparisons can be made, provided that due consideration is given to such factors as size of school attendance, wealth of the neighborhood in which the school is located and the class of school in which the lunch room is operated. These reports are of the greatest value in the preparation of the annual statements and reports that give a picture of the lunch room operation.

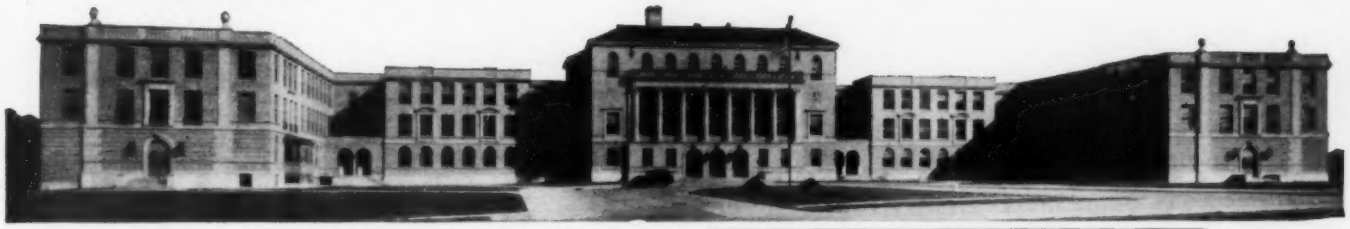


Just like a "real" cafeteria is this high school lunch room where the pupils are served food that is prepared under careful supervision and for which they pay a minimum price.

The Value of Accurate Control of Accounts

It is these annual summaries that show most clearly the value of an accurate control through periodical accounts. Samples of the type of information compiled are presented in the accompanying six tables.

Table I, a condensed operating statement for the year 1927-28, shows the sources of receipts and expenses. It is interesting to note that supplies and pay roll constitute the two chief items of expense. For supplies, 62.76 per cent of the



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GARBER and WOODWARD, Architects.

LINWOOD PUBLIC SCHOOL . . . . . CINCINNATI
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FIVE RECENT CINCINNATI SCHOOLS

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TABLE IV—COMPARATIVE GENERAL STATISTICS, THREE YEARS

Item	*1927-1928*	*1926-1927*	*1925-1926*
Number of service days	186	186	188
Number of lunches served	5,705,090	5,120,593	4,065,904
Average number of lunches served each day	30,672	28,080	21,624
Total receipts for lunches	$946,733.14	$830,316.80	$668,286.93
Average price of lunches	0.1661	0.1627	0.1643

TABLE V—COMPARATIVE PATRONAGE, THREE YEARS

Item	*1927-1928*	*1926-1927*	*1925-1926*
Total number of lunches	5,705,090	5,120,593	4,065,904
Daily average attendance at forty-six schools	82,217	70,451	60,792
Daily average lunches served at forty-six schools	30,672	28,080	21,624
Percentage of patronage to attendance	37.65	39.86	35.65

total receipts are required, while 28.87 per cent of the total receipts go for salaries and wages of regular help and pupil help. Administration salaries, plus apportionment of managers' salaries, are also included. The net gain of $43,497.37 should not be regarded as profit but as a necessary "margin of safety" to ensure against a deficit for the year and to provide new equipment.

Computation of certain averages for the year from this statement brings out some interesting points. Together with the summaries that have been given, they show the scope of the business done. The following averages are especially important:

Average daily lunches served	30,835
Average daily gross receipts	$6,162.52
Average daily cost of supplies used	3,871.53
Average daily cost of salaries and wages	1,761.27
Average daily operating expense	279.28
Average daily gross cost	5,912.08

These averages further emphasize the fact that the chief items of cost, once equipment is purchased, are food supplies and labor.

Comparative receipts by percentages for the three years ending June, 1928, are shown in Table II. The most important fact shown by this table is the increase in sales of lunches as contrasted with the decrease in sales of candy. It is also interesting to note that a worth while percentage of the income results from the good business practice of taking discounts on purchases and from the interest on daily bank balances earned by some of the larger cafeterias.

A similar comparison of the costs for three years is made in Table III. It is important to note that the percentages for regular help are in ascending series chronologically while those for net gain are in descending series chronologically.

Tables IV and V may well be considered together. They show chiefly the steady growth in the work of the lunch room division. The table of comparative patronage is especially valuable as an illustration of accounting procedure for the proper evaluation of the extent to which school cafeterias are used. The showing here is creditable and justifies the investment in equipment on the part of the school board.

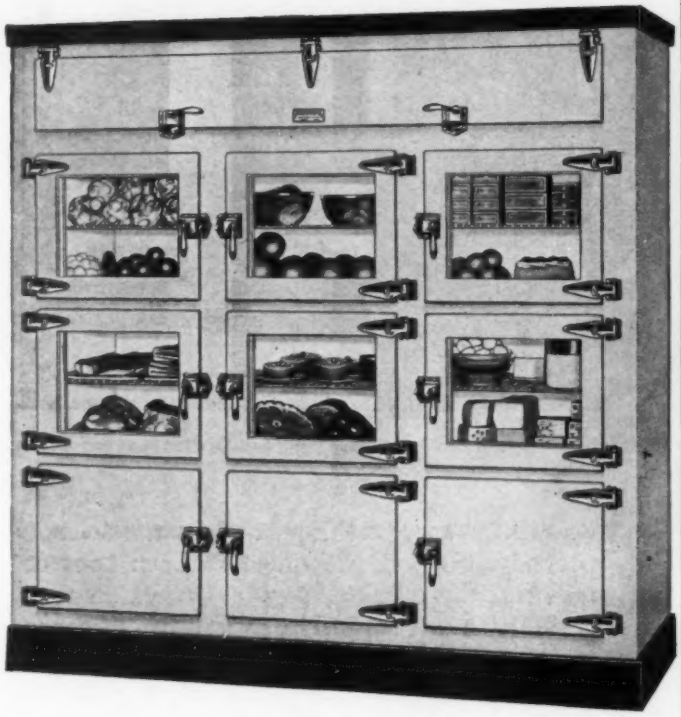
The director of household arts, however, feels that the saturation point has not yet been reached in the feeding of pupils in school lunch rooms. Her report declares: "Efforts should be made, especially in junior high schools, to induce pupils who buy lunch to patronize the school lunch room. Children of this age are not able to discriminate and indulge freely in overspiced food and oversweet beverages. The standards of the lunch rooms have to be lowered in order to satisfy their cravings for condiments and thus valuable time is lost in establishing good food habits."

Adapting Food to the Community

One of the factors contributing to the excellent percentage of patronage is the attempt to make the lunch rooms serve the dietary peculiarities of their communities. It has always been the practice to have equal prices for equal portions all over the city but it has also been the habit to adapt portions and prices to the communities served.

Another policy that secures patronage is the offering of plate lunches. A well balanced plate

A New McCRAY Model



For Machine Refrigeration

The No. P424, a new all-porcelain model by McCray, is built for mechanical refrigeration of any type and in design and construction embodies the most advanced ideas in modern refrigerator equipment.

Porcelain interior and exterior, the P424 is built to the same McCray standard of quality which assures efficient, economical operation and keeps perishables in their original freshness.

There are McCray refrigerators for every need. Send now for catalogs. No obligation. McCray Refrigerator Sales Corporation, 73 Lake St., Kendallville, Ind. Salesrooms in All Principal Cities. See Telephone Directory.

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WORLD'S LARGEST MANUFACTURER OF REFRIGERATORS FOR ALL PURPOSES

Ask for List of

Motion Picture Films

in 16 mm.

MOTION pictures can teach natural history with tremendous effectiveness. Think of the "movie" possibilities of geography, history, physics!

Scores of films on these and other subjects can now be rented or purchased in 16 mm. width as well as the 35 mm. width.

Write for catalog of S. V. E. SCHOOLFILMS. Consult it frequently. Cost of renting films only $1.50 and $2.00 per reel per day.

Give pupils in your school the advantage of latest methods of instruction.

SOCIETY FOR VISUAL EDUCATION, INC.
Dept. 6100, 327 S. LaSalle St., Chicago, Illinois.
Please send catalog of S.V.E. SCHOOLFILMS.

*Name*_____ *School*_____

*Address*_____

*City*_____ *State*_____

SOCIETY FOR VISUAL EDUCATION, INC.
Manufacturers, Producers and Distributors of Visual Aids
327 SOUTH LASALLE STREET. CHICAGO, ILLINOIS.

This sunny, cheerful lunch room is a typical example of the type of cafeteria that city schools are providing for their pupils.

lunch is offered at a price within the means of the pupil. This is worth while because it gives a varied and well selected lunch at a low price, speeds up service and brings increased business. In the junior high schools located in the less well-to-do districts, a ten-cent plate lunch has proved popular.

Schools Sell Candy

The comparative net gain of candy and food sales, a matter already referred to, is shown in Table VI. This shows clearly the net gain derived from the sale of candy as compared with the net gain derived from the sale of food. These financial figures must be balanced against other considerations concerning the sale of candy in schools.

From the figures shown in Table II, it is apparent that some school administrators disapprove of the sale of candy and have curtailed that branch of the lunch room activity. The possible objections to the sale of candy are numerous. Aside from the purely dietary arguments, there is in some cases the annoyance of candy wrappers littering school floors. In large schools where candy counters are found on each floor of the building, there is the further objection that discipline is interfered with when the groups that cluster about the candy counters are tardy for classes. At times there is the administrative difficulty connected with dishonest pupil salesmen. Still more often there are the carelessness and inefficiency resulting from the financial irresponsibility of immature pupils. Still another objection in some schools rests in the fact that certain school organizations already sell candy for the support of their school activities and wish to retain this privilege without competition from the lunch room. From the external or community viewpoint, a further objection is that the school should not be placed in the rather unpopular position of competing with commercial confectioners. On the other hand, this same argument may be made concerning the entire lunch room. It may be argued also that the pupils will go to the corner confectioner anyway so the school may as well sell them candy.

A distinctive feature of pupil feeding in the

TABLE VI—COMPARATIVE NET GAIN OF CANDY AND FOOD SALES

Item	*1927-1928*	*1926-1927*	*1925-1926*
Total receipts	$1,137,066.58	$1,008,203.44	$824,729.72
Net gain, candy sales	35,041.06	29,863.75	25,030.00
Percentage of total receipts	3.08	2.96	3.03
Net gain, food sales	8,456.31	10,006.56	12,456.25
Percentage of total receipts	0.75	1.00	1.51

Safe Stairs for the Modern School

Modern safety methods have developed this scientific way of keeping little feet from slipping. The school of today—that is modern in every respect—is being equipped with Wooster Safe-Groove Stair Treads.

Wooster Treads prevent stairs from becoming worn and dangerously slippery. More than that they provide an automatic safety device for stairs of any material.

Wooster Safe-Groove Stair Treads give years of protection against disfiguring wear and perilous falls. Let us send you further details and a list of modern schools now using this equipment.

WOOSTER PRODUCTS, Inc.
WOOSTER, OHIO

WOOSTER
SAFE—GROOVE STAIR TREAD

DIGNITY and DEMOCRATIC ECONOMY demand CAPS and GOWNS for High School ceremonies

» and the Wise School OWNS ITS OWN!

THE use of academic caps and gowns for High Schools has come to stay. Superintendents, Principals, P.T.A.'s and Student Bodies, alike, recognize the democratic advantages of uniform graduation apparel which eliminates the feeling of inferiority that clouds graduation day for many students. Then, too, the academic cap and gown add impressive dignity to the ceremony, reflecting credit on the entire institution.

BUYING *vs.* RENTING

The invention of the Myers Adjustable Cap has eliminated the one great obstacle to the schools' ownership of their caps and gowns. Now only one headsize is required, which can instantly be adjusted to fit any head perfectly. Before you place your rental order for caps and gowns, write to any of the addresses below for complete information about the advantages of owning your caps and gowns outright instead of paying a yearly profit for rentals. Caps and Gowns made by the E. B. Myers Co., are *new* garments, correctly cut and perfectly tailored. Get the details before you decide on Caps and Gowns this year!

E. B. MYERS COMPANY, Ltd.
511 VENICE BLVD., LOS ANGELES
Manufacturers of Academic Apparel for 24 years

New York Office: Jas. H. Moffett & Son, 1350 Broadway
Chicago Office: J. F. May, N. Amer. Bldg., 36 S. State St.
Dallas Office: H. G. Land, 318 Santa Fe Bldg.

Chicago schools, aside from the cafeterias that have been noted, is the system of penny lunches in the elementary schools. Sixty-five penny lunch rooms are now in operation. These include four for crippled children. In twenty-six of these schools anemic children receive milk and luncheon service in addition to the regular penny lunch service.

During the year 1928-29, almost 8,000,000 lunches, an increase of 10 per cent over the previous year, were served in the elementary schools. This is a monthly average of 800,000 lunches. Milk was served to more than 300,000 children each month. The average number of penny sandwiches—the item that forms the bulk of sales—was about 800 daily in one room, or 50,000 daily in all rooms. The yearly average in all rooms was about 12,000,000.

The system outlined here has proved effective in the control of Chicago's fifty school cafeterias. It is not presented as a perfect system of financial management. Neither is it presented as one that can be adopted by smaller school systems without modification. It is believed, however, that the data secured and the method of audit will offer suggestions to superintendents who wish to place the financial management of their cafeterias upon a sound business basis.

School Topics, Cleveland's Successful House Organ

By ANNETTE SMITH, Acting Director, Division of Publications, Board of Education, Cleveland

School Topics, professional house organ for the Cleveland public schools, tries to be a mouthpiece for every person engaged in public education in Cleveland. The only criterion for the success of such a publication is the interest the readers take in its contents. Judging by the number of Cleveland teachers who express an interest in *School Topics,* who are willing to write for it and who indicate they think it has educational influence, the magazine may be considered successful.

An editorial board, chosen by the teachers, controls the policy of the paper. This board is composed of two elementary teachers, one junior high teacher, one senior high teacher, one principal, one member of the superintendent's staff and one member of the board of education. The editor meets this board a few days before each issue is published. He supplies every member with galley proofs of the material a day before the meeting, enabling them to read the contents and comment upon it at the board meeting. At these meetings, also, board members give ideas for future issues. The editorial board is merely a policy forming body, and is not required to prepare material for publication.

School Topics is strictly professional. No personal items appear in its columns. If a teacher obtains educational advancement, if she is elected to an office in an educational organization or if she is otherwise honored educationally, the matter is reported. But a bridge party given by the teacher is not reported. The editor believes that once such material gets in an educational journal the paper will be swamped with such stories.

Cleveland has 5,000 teachers, including headquarters' staff, in its school system. Among these 5,000 are many interested in abstract theories of education in the philosophy of their work. Many young teachers, also, are among these 5,000 who are more interested in reports of successful teaching or actual concrete helps with their school problems. The editor of *School Topics* tries to remember both classes of readers in planning his fortnightly issues.

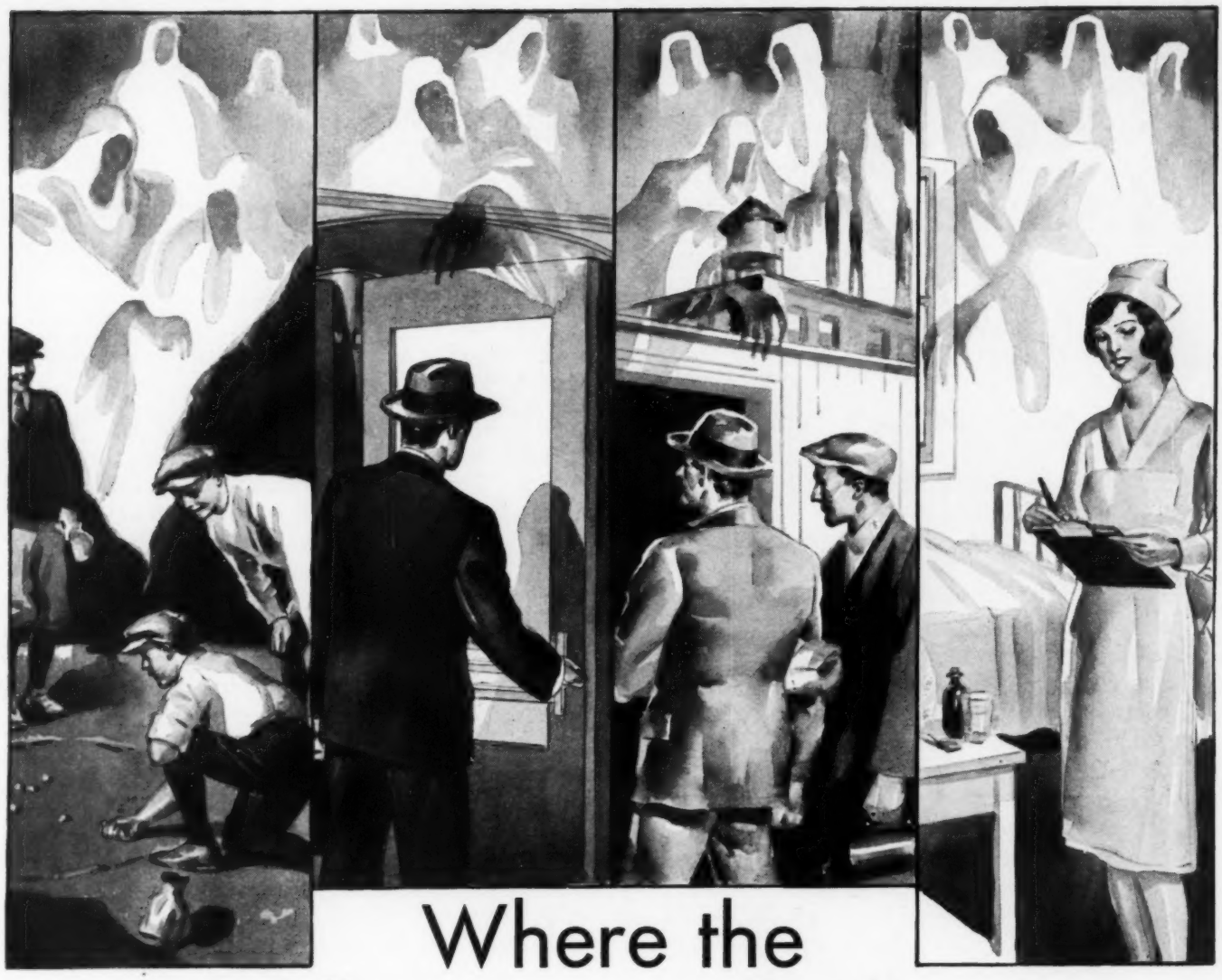
School Topics is dignified, but at the same time it has a lively, interesting presentation. It contains enough human interest to make it read by all types of teachers.

Citizens in Cleveland who are interested in education receive the magazine if they request to be placed on the mailing list. In this respect it acts as a publicity medium for Cleveland schools. Educators in all parts of the country also are on the mailing list. This list, incidentally, is revised every year and unless a person outside of the Cleveland schools returns his card indicating that he wants the publication another year, he does not receive it.

During the year 1929-30 *School Topics* published twenty-four articles by teachers in the field, twenty-five by members of the headquarters' staff and ten by citizens of Cleveland. The rest of the material was written by the editor and his assistant.

Old School Bell of Bucyrus, Ohio, to Be Preserved

The old school bell that has called the children of Bucyrus, Ohio, to their tasks of learning since 1867 is to be preserved and used on special occasions. It is now housed in a bell tower, the gift of John Q. Shunk, that stands on the grounds of the new Union School building at Bucyrus. The old bell was cast in New York State and cost $869.68. It hung in the tower of the old Union School that was in use from 1867 to 1922.



Where the Deadly Legions Gather He Fights Your Battle

Every school, industrial plant, hospital, public building and similar place where humans gather is a potential rallying ground for the unseen legions of mankind's greatest enemy.

Wherever sanitation may be an acute problem, the Clow Soldier of Sanitation is your logical ally. Call him in. With his long experience and his complete line of specialized fixtures he naturally is, and can afford to be, unbiased in his ideas. This is L. E. Woessner, Loan and Trust Bldg., Milwaukee, Wis.

To "defeat" the germs that make up this army—*and to lower the costs through-the-years* —through proper plumbing facilities, has been the job of the Clow Sanitation Soldier since 1878.

It was a Clow Man who was called into a prominent Southern city when Typhoid had all but won the battle.

It was a Clow Man who was drafted into Cuba as an important ally against the deadly legions of Malaria.

Today these Clow Soldiers of Sanitation carry on, less spectacularly, but even more scientifically and effectively. They have developed the Clow-Madden Automatic Closet for schools and public places. They have given us the sanitary drinking fountain. And they have developed a wide variety of fixtures to meet special and dangerous sanitary conditions.

52 years of experience in the battle against pollution, ill-health, and uncleanliness give the Clow Soldiers unmatched knowledge of mass plumbing needs.

The largest line of specialized fixtures, carefully built, help them help you to meet any requirement no matter how specialized or acute.

CLOW

CHICAGO

PREFERRED FOR EXACTING PLUMBING SINCE 1878

Consult your architect

Practical School Administration: Miscellaneous Economies That Lead to Substantial Savings

By PHILIP LOVEJOY, Assistant Secretary, Rotary International, Formerly Assistant Superintendent of Schools, Hamtramck, Mich.

A MAGAZINE that comes regularly to my desk has a valuable department headed "Ideas for Your Clipping File." These paragraphs are printed about four inches wide and are so spaced that they may be readily clipped and pasted on 3 by 5-inch cards. Many of these items are of real interest. They show how others have attempted to solve their problems.

Probably every school man has discovered similar money saving or time saving kinks and quirks. I propose to list in this article some findings that have proved their worth many times.

1. A sweeping compound, the formula for which is as follows:

Sawdust 80 per cent; Salt 10 per cent.

Paraffin Oil 10 per cent; Cost $27 to $30 a ton.

For several years the board of education, Hamtramck, Mich., purchased the ordinary sweeping compound. On analysis this was found to be loaded about 50 per cent with sand. This was selling from $20 to $24 a ton. Of course, sand is heavy and therefore the board was getting a reduced quantity of sweeping compound. The manufacturers claimed that the compound had to have sand in it to keep it from blowing around. We checked the corridors and discovered that by nightfall the pupils themselves brought in plenty of sand. It therefore seemed folly to buy additional sand. Manufacturers were asked to bid on a sweeping compound with absolutely no sand. Several refused to do this, saying we would not be satisfied. Finally, several bid on the compound under our specifications. On a simple water check, however, it was discovered that there would be about a teaspoonful of sand to each glassful of compound.

After a great deal of urging we were able to get bids at $29.50 net a ton on the formula which we supplied. When it was discovered that a ton of compound without sand would go further than two tons with sand it was seen right away that considerable money would be saved. While the cost per unit was more, fewer units would be necessary; hence money would be saved. A further analysis showed that coloring was being added to the compound to make it red or green or brown. This was ruled out and the price came down still further. The compound we now obtain is of a plain sawdust color—with salt and oil. It serves its purpose admirably and the board of education is several dollars ahead on this one item.

2. State gasoline tax and special assessment taxes: In Michigan the state gas tax is three cents a gallon. The law especially provides that no board of education, division of state or municipal government shall pay this tax. A specific method is set up whereby the refund is made. A perusal of the law revealed to the local board of education how it might obtain refunds totaling from $7 to $10 a month. The law is likewise quite definite and clear with reference to special assessments for paving and other public improvements. A ruling from the attorney general of Michigan stated that it would be considered a misuse of public funds to use such funds for special assessments and that any interested taxpayer might even obtain an injunction were they to be so spent. This does not mean that the board of education is opposed to public improvements. It does mean that such improvements are a direct charge against the municipality as a whole and that they may not be charged as a cost of education in any community. An understanding of this law both by the board of education and the city officials means that the school budget does not include such items and that such improvements should be spread initially on the general improvement tax roll.

Other Practical Ideas

3. The use of equal quality substitutes: Often a board of education uses a certain trade name article over a period of years The article is perfectly satisfactory, but carries a high price because of the trade name. A check on the specific item in use will often show that it is not protected by patent rights and that a substitute may be used without any infringement whatsoever. A certain board of education was buying several barrels

In AUDITORIUMS

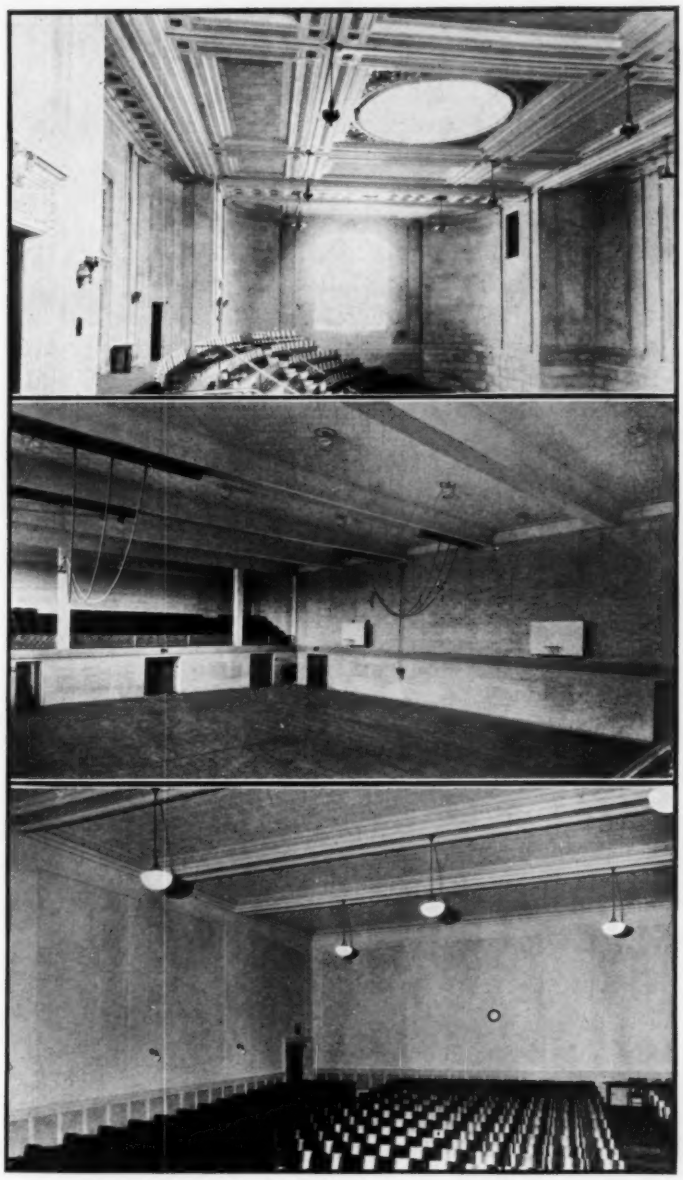
Beautiful auditorium of the Montreal Technical School, Montreal, Canada. The ceiling panels are treated with Acousti-Celotex, thus assuring perfect hearing for every spoken word.

GYMNASIUMS

Whoever heard of an echo-free gymnasium! Here's one—the gym of the Vine Street School, Hartford, Conn. Acousti-Celotex absorbs noisy sounds, and also adds to the attractiveness of the ceiling.

CLASSROOMS

Many hard surfaces created a real acoustical problem in the Llewellyn School, Portland, Oregon. But Acousti-Celotex applied to the ceilings solved the problem quickly and permanently.



Acousti-Celotex subdues noise ...improves hearing conditions

BETTER acoustics in auditoriums, less noise in gymnasiums and corridors, better study conditions in classrooms—these are the benefits Acousti-Celotex has brought to hundreds of schools and colleges.

No wonder this remarkable material has found such a ready acceptance among school authorities!

When applied to the ceilings of school rooms, Acousti-Celotex solves the noise problem once and for all. It quickly absorbs noisy reverberation, changes blurred sounds into clear, distinct words, increases the pleasure of listening to school lectures and concerts.

Acousti-Celotex comes in finished units, decorative and durable, which are quickly installed in old or new buildings. It can be painted and repainted, even with lead and oil paints, without loss of acoustical value.

Write today for our new folder "Better Study Conditions in Schools" explaining further about Acousti-Celotex.

The word
CELOTEX
(Reg. U. S. Pat. Off.)
is the trademark of and indicates manufacture by
The Celotex Company,
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919 N. Michigan Avenue, Chicago, Illinois. In Canada: Alexander Murray & Co., Ltd., Montreal. Sales distributors throughout the World. Acousti-Celotex is sold and installed by approved Acousti-Celotex contractors.

ACOUSTI-CELOTEX

FOR LESS NOISE—BETTER HEARING

of oil at a cost of from seventy-five cents to $1.25 a gallon. A check-up determined that an oil could be obtained for twenty-three or twenty-five cents a gallon that would do the job satisfactorily. The saving was at least fifty cents a gallon, and on 1,000 gallons was sufficient to be noticed in the annual budget

4. The use of special devices for the benefit of personnel: Special safety devices provided for the custodial personnel will present a convincing argument that the board of education cares for the welfare of its men. The reciprocal must then be true. The men will care for the interests of the board, and savings will ensue. Take for instance, the ordinary stepladder. Its construction is such as to make the center of gravity occupy but a very narrow strip. Even then it does not have the advantage of getting close to its work. A safety ladder that obviates these difficulties has a wide leg spread and makes possible efficient and safe work.

5. Answering questionnaires: What school does not receive numerous questionnaires in the course of a year? Certain governmental lists must be filled out with care and in detail. A great deal of information is requested that must be compiled. The method of compilation may affect the final result and interpretation. It would be better for the superintendent to supply the basic facts about the school system and then permit the individual making the request to tabulate the data in his own way. In one school system so many questionnaires were received that a complete tabulation of all the basic facts of the system were compiled and printed in a single pamphlet entitled "Answering the Questionnaire." These facts were arranged in alphabetical order. In many cases the statistics ran back over a period of years so that trends might be discovered.

This pamphlet served an excellent local purpose as well. It was the first instrument in local public school relations. It became a handbook for numerous merchants and industries who desired and indeed were entitled to the facts about their schools. A local factory, employing a large number of men, desired to know the nationality distribution of the citizenry of that community. The booklet was sent them. It made a good impression because the service was immediate and was far more inclusive than had been anticipated. It merely was an example of organization that inferred a well managed school.

Some of the headings in this publication were as follows: Adult Education; Accelerations and Retardations; Appraisal of Personnel; Board of Education Members; Bonds; Budget; Cafeteria; Capital Outlay; Building Record; Census; Coal, Method of Purchase; Community Fund; Crippled Children; Custodians; Dental Service; Employment Permits; Home Ownership; Insurance Report; Libraries; Lunches, Public; Medical Service; Membership by Grades; Population; Placement Bureau, Principals of Schools; Public Relations; Publications; Purchase Method; Research; Salaries; School Dollar, How Divided; Sinking Fund Requirements; Superintendent; Survey; Tax Rates; Teachers; Transportation; Subsidies; Valuation of School Plant; Vocational Guidance.

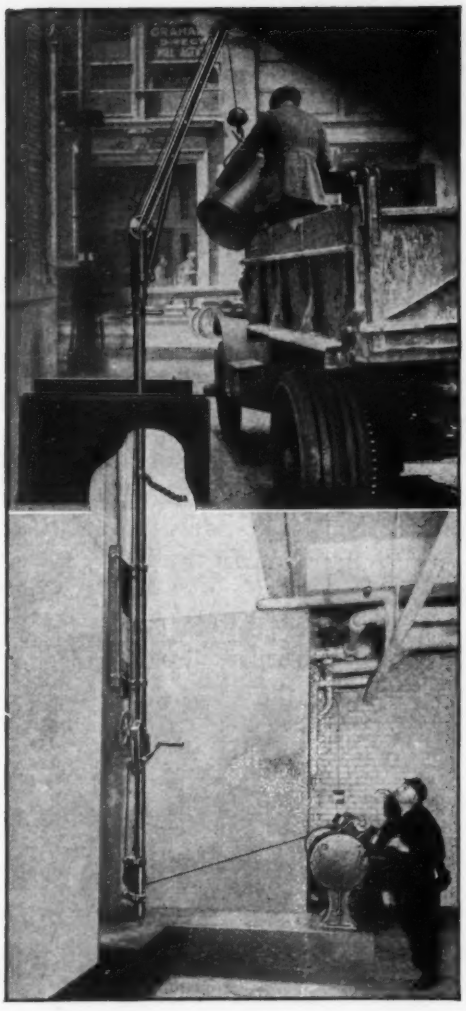
STAR PUBLIC SCHOOLS

Coal Check Sheet

Date	*Coal. Co. Number of Ticket*	*To What School*	*Gross*	*Tare*	*Net*	*Driver*	*Checked by*
5-17-30	19653	Blue	26480	14100	12380	Doe	Bill Brown
5-17-30	19677	Blue	27940	14100	13840	Doe	Bill Brown
5-17-30	19682	Blue	26600	13500	13100	Doe	Bill Brown
5-17-30	19697	Blue	27580	14100	13480	Doe	Bill Brown
5-17-30	19700	Blue	26260	13500	12760	Boe	Bill Brown

6. A method of checking coal: Recently there appeared a newspaper report of an audit made by a large industrial corporation of the books of its local school district. The newspaper report contained this paragraph: "The board can show no proof that it received the material paid for. Out of 143 loads of coal paid for in January only fifty-two loads are covered by receiving reports. There was no indication of the destination of the other ninty-one loads."

In order that there may be no grounds for making such allegations, one school system has devised a method of making an absolute check on its coal. The original bid has to state where the coal originates, the mine, the county, the vein, the operator and the shipping point. When the coal arrives at the yards, the board of education is to receive duplicate bills of lading and the cars are to be checked to make certain that the particular car in question is the one that was shipped for the board of education. As the coal is unloaded from the cars, a representative of the board of education is present to make certain that the coal being



Annual ROLL CALL

the G&G ELECTRIC Telescopic Hoist

In the Nation's Schools

G&G Ash Removal Equipment is used in schools in 44 states. It is now *standard equipment* with the Boards of Education in Pittsburgh, Seattle, Louisville, Kansas City, Mo., Kansas City, Kans., Cleveland, Baltimore, Washington, Boston and New York. Here are the leading state totals:

NEW YORK	477 Schools	MINNESOTA	54 Schools
PENNSYLVANIA	204 Schools	MISSOURI	53 Schools
OHIO	197 Schools	MARYLAND	37 Schools
NEW JERSEY	167 Schools	INDIANA	26 Schools
MICHIGAN	111 Schools	WISCONSIN	26 Schools
MASSACHUSETTS	109 Schools	DIST. COLUMBIA	24 Schools
ILLINOIS	80 Schools	KENTUCKY	17 Schools
IOWA	69 Schools	DELAWARE	16 Schools
CONNECTICUT	67 Schools	NORTH CAROLINA	14 Schools
KANSAS	60 Schools	SOUTH DAKOTA	14 Schools

Gillis & Geoghegan have been pioneers in developing ash removal equipment to eliminate the danger of the open hoistway. Illustration shows patented opening-closing-locking sidewalk doors with spring guard gates, providing a complete barrier around the sidewalk opening when ashes and rubbish are being removed or when doors may be opened for ventilation. When Hoist is not in use, the doors automatically close flush with pavement and lock . . . G&G Ash Removal Equipment is also widely used in Banks, Churches, Hospitals, Hotels, Office Buildings, Theatres, Telephone Buildings, Stores, Factories, Garages, etc. Electric and hand power models for special uses. Write for Catalog.

GILLIS & GEOGHEGAN

64 Years of Service

551 West Broadway **New York, N. Y.**

sent to the school bins is from the cars in question. A check sheet is kept by the representative of the board of education who stays at the scales during the deliveries. The weights are read off by this board representative as well as by the coal dealer's representative.

These weights may be checked by this board representative at any time by escorting a load to the city scales.

The accompanying statement shows the check sheet maintained by the board of education.

The check cards are turned over to the finance office of the board of education immediately at the close of each business day. The delivery coal slips are received by the custodians in the various buildings. These, when signed, are forwarded to the finance office. They are then checked against the tabulations on the cards. The delivery slips are kept in a permanent file for a period of six years or until such time as bills would be outlawed in the specific state. They are filed in numerical order.

A Further Protection

The check sheets, which have been double checked, are held for the invoices. These must agree in every detail with the check sheet. If they do agree, the invoices are sent forward for payment. Inasmuch as the invoices are prepared in duplicate on the regular board of education form, the second copy is kept in the files for a period of six years as substantial proof of what was paid for. This, coupled with the canceled check, shows the amount that was paid. A further protection is maintained. The board of education demands that the invoice submitted to it must be sworn to before a notary. The paragraph in point is as follows:

"The undersigned being duly sworn says that as.....he is authorized to make and file this affidavit; that the within account amounting to $..... is just and true; that the services and property charged have been actually performed and delivered for the.....Board of Education; that the sums charged therefor are reasonable and just; and that to the best of his knowledge and belief no offset exists; nor has payment been made on account thereof, except as is stated in said account."

In this way a complete check is maintained from the time that the coal leaves the mine until it is delivered and paid for. Any coal starting from the yard must be accounted for at some school bin before payment will be made.

This article has merely taken up a few of the miscellaneous items that occur every day in any well organized public school system. Contributions to this column will be appreciated.

Why Radio Licensees Should Help Education

Holders of radio broadcasting licenses should be required to grant their facilities for a period each day to an educational program controlled by Federal and state agencies, said Judge Ira E. Robinson, member of the Federal Radio Commission, in an address before the Institute for Education by Radio, that met in Columbus in connection with the National Education Association.

Pointing out that under the present law licenses are granted without fees "to use a valuable wave length for money making purposes," Judge Robinson suggested an amendment to the act to require a consideration for licenses.

"We need not so much care for a money consideration," he continued, "though in view of the enormous cost of radio administration, a licensee should be required to pay that."

Judge Robinson dealt also with the question of control of radio by groups, and said that the doctrine of the present radio law is that "no one has the right to devote a radio license to his exclusive private use," and that "the licensee is merely a trustee for the public."

Notwithstanding this policy, he continued, "It cannot be gainsaid that a monopoly of radio is now insistently claimed by a group, and that its power and influence are so subtle and effective as to portend the greatest danger to the fundamentals of American republican government."

Pupils of Illinois County Benefit by Free Dental Work

A dental hygiene campaign, which offers to every rural school child in Macoupin County, Illinois, a free examination of the teeth, was inaugurated early in September when Dr. Lawrence Neber, state supervising dentist, addressed the teachers' institute at Carlinville.

Doctor Neber explained to the teachers the cooperative plan between the state health department, the practicing dentists of the county and the teachers, which provides free dental examination for the children.

To carry out the program the state department of health supplies appropriate dental record cards. These are placed in the hands of rural school teachers who distribute them among the children.

Each child who took one of these cards to the office of a dentist during September received a free examination. The cards, with defects recorded thereon, were then sent to the county superintendent of schools who was assisted by a state public health nurse in studying the records.

YOU WILL BE SURPRISED

at the difference in the appearance of your dishes when they are washed with

in the dishwashing machine.

You will find that stains can be removed, and the china will have the appearance of new dishes.

This cleaner meets any condition of water hardness. It keeps aluminum trays free from discoloration, glassware that is sparklingly clear, silverware that is faultlessly clean without hand scouring, and dish machines free from scale.

An order on your Supply House for "Wyandotte" is an investment in better dishwashing at a lower cost.

Write us for information on our dishwashing service.

The J. B. Ford Co. Sole Mfrs. Wyandotte, Michigan

News of the Month

Plans for American Education Week Now Under Way

Plans for the nationwide observance of the tenth annual American Education Week, from November 10 to November 16, are now under way, according to a recent statement by Dr. H. R. Evans, of the editorial division of the Office of Education, Department of the Interior.

Varied programs have been planned and made available for all schools throughout the country with a suggested theme to be given especial emphasis in each day's program. The suggested topics around which programs are built include "The Schools and the Enrichment of Human Life," "How Schools Promote Patriotism and World Understanding," "The Schools of Yesterday," "The Schools of To-day," "What the Schools Have Helped Individuals to Achieve," "What the Schools Have Helped America to Achieve," and "The Schools of To-morrow and the Future of America."

Single communities will probably not wish to make use of all the suggestions, but selections will be made by local communities in accordance with community needs, and will be developed and adapted according to local conditions. Each community will create its own organization for the observance of the event.

During the week the basis may be laid for cooperation of the community and the school throughout the year. Observance of the week offers a splendid opportunity to strengthen an effective continuing program of school interpretation. Throughout the nation during the week the public focuses its attention upon the schools. The newspapers, magazines, the pulpit, the radio, every medium which expresses opinion, aids in making American Education Week a good start for the year's interpretation of the schools.

Every educational agency in the community may cooperate with the schools in providing programs in life enrichment for both children and adults by stressing the wise employment of increased leisure.

The week is planned to include Armistice Day, November 11, to afford a better opportunity for stressing the idea of patriotism and international good will.

Walter Damrosch Opens Season of Radio Concerts

Walter Damrosch's 1930-31 season of radio concerts for schools and colleges opened October 10.

It is anticipated that fully eight million children and older students will listen in to the music appreciation hour this year, an increase of about two million over last year. The programs are available to every community east of the Rocky Mountains.

Following last season's general plan, there will be four series of Friday morning concerts, each including twelve programs. The schedule of dates follows: Series A (Grades 3 and 4) from 11 to 11:30 a.m. and Series B (Grades 5 and 6) from 11:30 a.m. to noon on October 24, November 7, November 21, December 12, January 9, January 23, February 6, February 20, March 13, March 27, April 17. For Series C (Grades 7, 8 and 9) from 11 to 11:30 a.m. and Series D (high schools, colleges and music clubs) from 11:30 a.m. to noon—on October 17, October 31, November 14, December 5, December 19, January 16, January 30, February 13, March 6, March 20, April 10, April 24.

Entire new programs have been worked out for the series by Mr. Damrosch. The instructor's manual, prepared by Mr. Damrosch in collaboration with his assistant, Ernest La Prade, is radically different from that of last year. Instead of the group of questions and answers on each program, there are full descriptive notes covering each composition played. The suggestion is made that the teachers prepare their own questions and tests from these notes.

N. E. A. Plans for Sixty-Ninth Convention

The National Education Association will hold its sixty-ninth annual convention in Los Angeles, June 28-July 4, 1931. President Willis A. Sutton is already outlining an interesting program. Seldom does a convention city offer such unusual opportunities for combining a vacation trip with professional study. The 40,000 teachers of California will contribute to the success of the convention by their attendance and enthusiasm, a good sample of which they brought to the Columbus convention in 1930 when the invitation to Los Angeles was extended. Many teachers will go to California early enough to attend summer school sessions and will remain after the convention to enjoy their vacation periods.

New York City School Board May Get New Building

To centralize the many services of the board of education of New York City now scattered about the city, the board is considering plans for a skyscraper of about twenty-five stories, but so far the project has not reached the stage of architectural planning, says an article in the *New York Times*.

Preliminary sketches of the projected structure, which is expected to cost more than $4,000,000, were drawn last winter. They are, however, considered tentative, because it has not been determined just what space will be necessary for administrative offices and auxiliary agencies.

The necessity for a central educational headquarters long has been recognized, the article says. Due to lack of space, many important bureaus and departments are scattered throughout the city in ten additional buildings.

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News of the Month

Negro Specialist to Have Place in Office of Education

Newly appointed specialists in the education of handicapped children and Negro education assumed their duties on September 2, according to Mrs. Katharine Cook, chief, division of special problems, United States Office of Education.

Mrs. Cook said that both specialists are eminently qualified in their fields, respectively, and that their names will be announced by Commissioner William John Cooper in a few weeks.

For the first time in the history of the Office of Education a representative of the colored race will occupy a place in the study of problems confronting his race.

Both fields of research have been much needed in the office and already the work which each will do has been tentatively outlined.

The specialist in the education of handicapped children will make a study of the various state and city systems in respect to children of this character, will ascertain the number of such children, the methods of educating them and the various problems confronting educators in affording them the widest opportunities in spite of their disabilities.

Negro education has been much neglected generally, according to Mrs. Cook, and the presence of a specialist racially and culturally sympathetic toward their problems will bring to public attention information of great value. One of his projects will be to ascertain if the premise that Negroes require a special education adapted to their abilities different from white persons is true or not.

New Teachers' Training Building at University of Kentucky

By means of a gift of $150,000 from the General Education Board of New York City matched by a similar sum appropriated by the legislature of Kentucky, a modern teachers' training building has just been completed at the University of Kentucky and stands ready to begin in a few weeks its work of preparing teachers for the schools of the state.

The organization of this training school is different, perhaps, from the organization of any similar school in the United States. The work starts with children in the preschool group, the preschool unit being made up of the nursery school and the kindergarten. Both of these groups will be under the supervision of one teacher, who, with two or three assistants, will carry on the work of this unit. The equipment for this particular unit is perhaps as interesting as will be found in any part of the school. Two rooms opening into an enclosed court have been made available for the preschool group. The first room will accommodate children from the ages of three to four and one-half years, the second room, children from four and one-half to six years. Special types of equipment have been ordered for children of these particular ages. The enclosed court adjacent to the rooms will also be equipped for children in the preschool unit.

In the construction of the building throughout the most modern types of heating and ventilating have been installed. Every room is abundantly supplied with light and ample provision has been made for artificial lighting in case of cloudy weather.

No child in any room in the entire training school will ever be called upon to climb more than one flight of stairs. There is no basement to the building, and there is no attic. There are just two floors in the building.

World Federation to Meet in Denver in 1931

The fourth biennial conference of the World Federation of Education Associations will meet at Denver, Colo., July 27 to August 1, 1931, it has been announced by the federation president, Dr. Augustus O. Thomas. The program will feature the Herman-Jordan plan for the promotion of world understanding and good will.

Among the objectives of the federation significant for world good will, which will be discussed at Denver are: the promotion of student scholarships for study in foreign universities; a greater unification of scientific terminology; an *International Digest of Education* published by a permanent bureau of research and publicity; a universal library ultimately to be connected with a world university; and a basic worldwide plan of character education.

Special emphasis will be placed upon health education, the "new diplomacy," and of the work of the church in promoting universal application of the Golden Rule.

President Thomas has recently received wide acclaim for his support of the proposal made by John H. Finley of the *New York Times* and Albert Einstein, the great German scientist, to spend a substantial portion of the war reparation funds to promote international education, fellowship and exchange of students.

Representatives of sixty-three nations are expected to attend the 1931 conference.

Missouri Public Education System Leads in South

Missouri ranks first among sixteen Southern states in its public education system, according to information made public recently. Maryland stands second.

This ranking of the states is based on five educational items generally considered indicative of a good school system. These items are: (1) percentage of enrollment in average daily attendance, (2) average length of school term, (3) average annual salaries of teachers, supervisors and principals, (4) percentage of total enrollment in the high school grades and (5) average value of school property per pupil enrolled.

The ranking of the sixteen Southern states on the basis of these five items is as follows: Missouri, Maryland, Texas, West Virginia, Florida, Louisiana, Virginia, North Carolina, Oklahoma, Kentucky, South Carolina, Georgia, Tennessee, Alabama, Arkansas and Mississippi.

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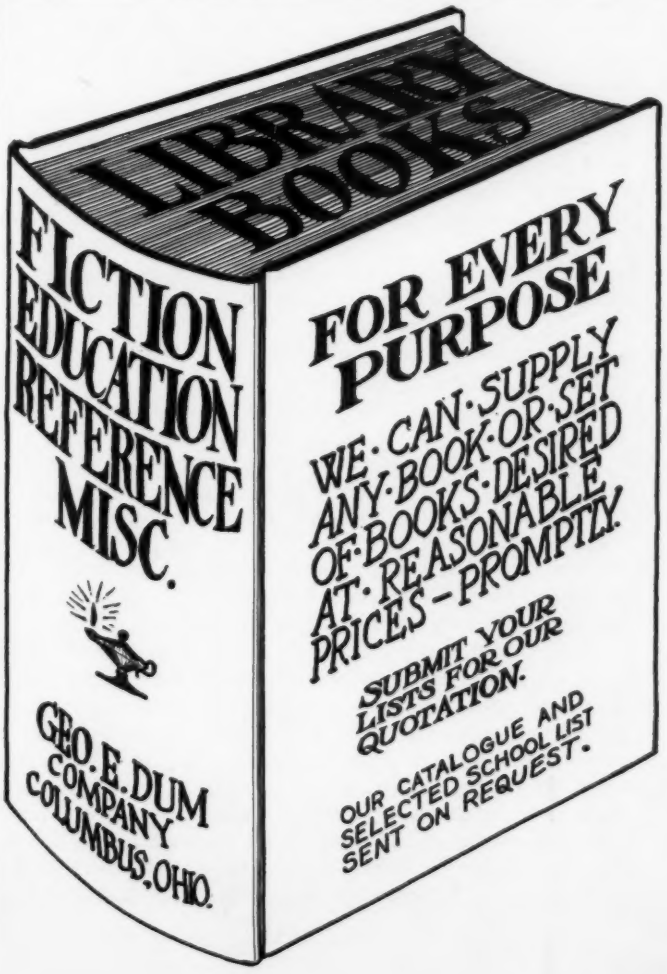

News of the Month

Department of Superintendence Seeks $1,000,000 Research Fund

The plans of the Department of Superintendence, National Education Association, to raise $1,000,000 for educational research are now in effect. The undertaking is no longer a dream of those who have wished for the office of school administration the security and efficiency in service that only continuous scientific study of its functions can provide. Ninety-eight subscription units of $250 each were offered as preliminary subscriptions to the million dollar campaign.

No large gifts to this fund will be sought. No paid solicitors will be employed. Contributions will be made by school superintendents and friends of education who have no other motive than devotion to the public welfare. While large gifts may be received if they are offered without conditions that will make them unacceptable, the committee recommends that the fund be raised upon a democratic, nationwide basis, as follows:

1. Bequest insurance on basis of schedule specially prepared for the committee on financing educational research, Department of Superintendence, by the bequest insurance department, Equitable Life Assurance Society of the United States.
2. Contributions in cash.
3. Legacies specified in their wills by friends of education.
4. Life memberships in the Department of Superintendence for those eligible to active membership upon the payment of a fee of $100 which may be made in ten equal annual payments.

The movement for an educational research fund to be spent at the direction of the Department of Superintendence began at the Washington convention in 1926 in a resolution that the research activities of the department should be adequately staffed and financially supported for larger service. In April, 1927, the executive committee of the department authorized the president to appoint a committee of five to devise ways and means for financing research in a permanent way.

This committee, now composed of Randall J. Condon, chairman, Frank W. Ballou, Lamont F. Hodge and Charles H. Judd, is receiving funds, after having made a careful study.

The bequest insurance plan of subscription was devised by this committee in accordance with the action of the department at the Atlantic City convention. Arrangements were made with the Equitable Life Assurance Society, whereby it will undertake in cooperation with the members of the department to secure in the form of endowment insurance a substantial part of the fund.

Superintendents and others who wish to befriend may take out a ten-year endowment policy with the Equitable Life Assurance Society naming the Department of Superintendence as beneficiary. The policy may be written for any desired sum, in units of $250 each. At maturity or upon the death of the assured, the principal sum will be paid to the educational research fund. Annual premiums vary according to the age of the assured. Detailed information may be received from the Department of Superintendence, National Education Association, 1201 Sixteenth St., N. W., Washington, D. C., or from the local agents of the Equitable Life Assurance Society.

The advance subscriptions and bequests have been made by superintendents, principals, teachers' organizations, public-spirited citizens, educational institutions and city boards of education. Attainment of the million dollar goal is certain. The time taken to achieve it depends upon effort and leadership. Those who subscribe will make a definite contribution to educational science and to the welfare of 24,000,000 boys and girls enrolled in the public schools.

Radio Station Sought to Carry Learning to Hill Folk

About 4,000,000 "benighted native Americans" who inhabit the mountains and foothills of the Appalachians are in need of the inspiration, education and uplift that radio can bring, the Federal Radio Commission was told recently by Dr. John Wesley Hill, Chancellor of the Lincoln Memorial University, Harrogate, Tenn.

Appearing on behalf of interests at Middlesboro, Ky., which are seeking authority to establish a new 100-watt broadcasting station there, Doctor Hill declared that this station would be employed to "bring light to these people now sitting in the darkness." He said that radio is looked upon as the "real opportunity" for educating these people.

The station, which would be about three miles from the university, said the witness, has an elaborate plan for education, and he believes that it will be an instrument for the development of good citizenship among these mountain folk. The Office of Education of the Department of the Interior and the Chamber of Commerce of the United States, he explained, have given fifty receiving sets for distribution in this territory, and fifty more have been promised. These are being placed at strategic locations as "community receivers," he stated.

The Russell Sage Foundation, continued Doctor Hill, found that there are 4,000,000 "benighted native Americans" in these mountains, after a comprehensive survey. John Hays Hammond and Ira Bennett, editor, and the entire board of trustees of the university are collaborating in an effort to "enlighten" these people, he declared.

Virginia Rural School Properties to Be Beautified

The department of education for Virginia has requested the department of conservation and development to recommend a beautification program for the rural high school properties of the commonwealth, and this work shortly will begin under the direction of the landscape engineer of the conservation commission, a recent announcement says.

Two landscape engineers now are available for beautification work on state projects. The state highway commission has a specialist on road beautification and the conservation commission has a man whose job is the landscaping of parks and other state property.

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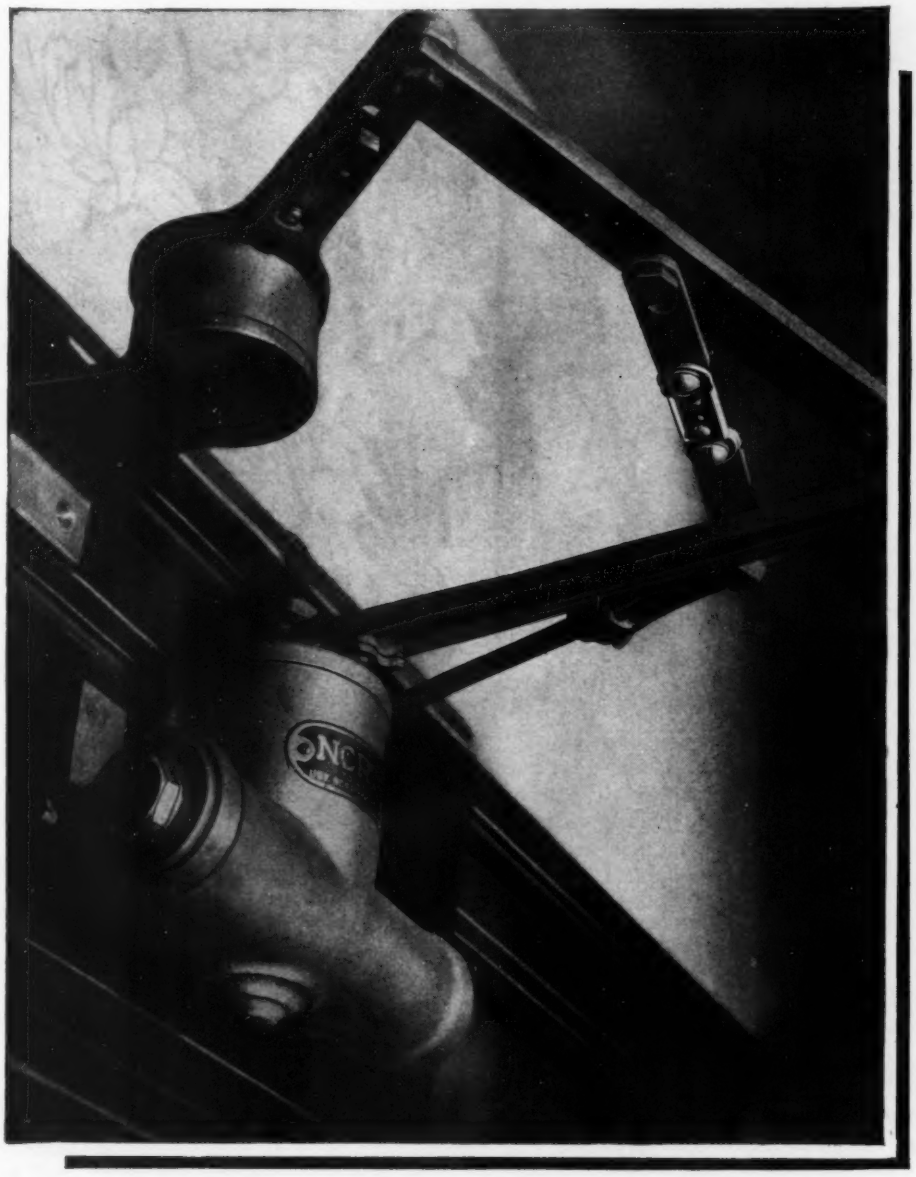

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News of the Month

New Orleans Buys Hospital Property for School

The Orleans Parish school board, New Orleans, has bought the Presbyterian Hospital properties in that city and will use them in educational projects at present under consideration.

Buildings involved in the sale include the main Presbyterian Hospital and annex, nurses' home, Casanas Clinic and the new Batchelor Memorial. The properties were acquired for $350,000, following mortgage foreclosure. First payments are be deferred for five years.

The Francis T. Nicholls Normal and Trade School for Girls will be transferred to the Presbyterian Hospital site. Proximity of the new school to the heart of the business district will enable its facilities to be used to the fullest advantage by girls employed in the business zone, an object sought for years by school leaders.

It is expected that the Batchelor Memorial will be utilized by the board for the executive offices of the school system.

How West Virginia Teaches Its Crippled Children in Hospitals

West Virginia is sponsoring an experiment whereby crippled children in hospitals are to be taught by regularly employed teachers. Two such schools have been opened in Charleston and two in Huntington. The teacher chosen for the work will divide her time between the two hospitals, giving personal instruction to the children in them. The grades taught will range from the first to the eleventh.

The funds for carrying on the schools were provided out of the state aid to schools fund under authorization from the board of public works.

The teaching courses were arranged for the benefit of all crippled children who are confined in the hospitals whether they are under the care of the State Crippled Children's council or supported by their own or other means.

At Huntington the hospitals are Huntington Orthopedic and Kessler-Hatfield. At Charleston, McMillan and Charleston General.

School Finance and Administration Subjects of New Study

The administration and financial support of secondary education are being studied in detail as a part of the national survey of secondary education, it was explained recently at the Office of Education, Department of the Interior.

This phase of the investigation, which is under the direction of Prof. Fred Engelhardt, the University of Minnesota, will concentrate upon the relationship of the type of school organization from its administrative set-up to the efficient and economical development of the educational program.

An analysis of the types of corporate school districts is being made and the extent to which district organization makes education available to the children within certain areas is also being investigated. The number, kinds and designations of districts will be studied.

Problems involving nonresident pupils, tuition and transportation facilities fall within the survey, it was explained.

E. S. Lide, specialist assisting in the general survey, declared at the Office of Education that an analysis will be made of school laws which control the procedure for creating, uniting, consolidating and abandoning various types of secondary schools or the districts maintaining secondary schools.

In ascertaining the methods of supporting the schools, Mr. Lide said the study will embrace county taxing systems, private support, state support and any unique plans for maintaining them.

The general plan of procedure will be to utilize all available data in the biennial survey of the Office of Education and by further investigations through checklists or questionnaires submitted to the authorities. Attention will be given to the most typical systems, and also special study will be made of any unique situations that have been found in different places, Mr. Lide pointed out.

Special visits will be made in some instances for more detailed study, and local school administrators will be consulted from time to time, he added.

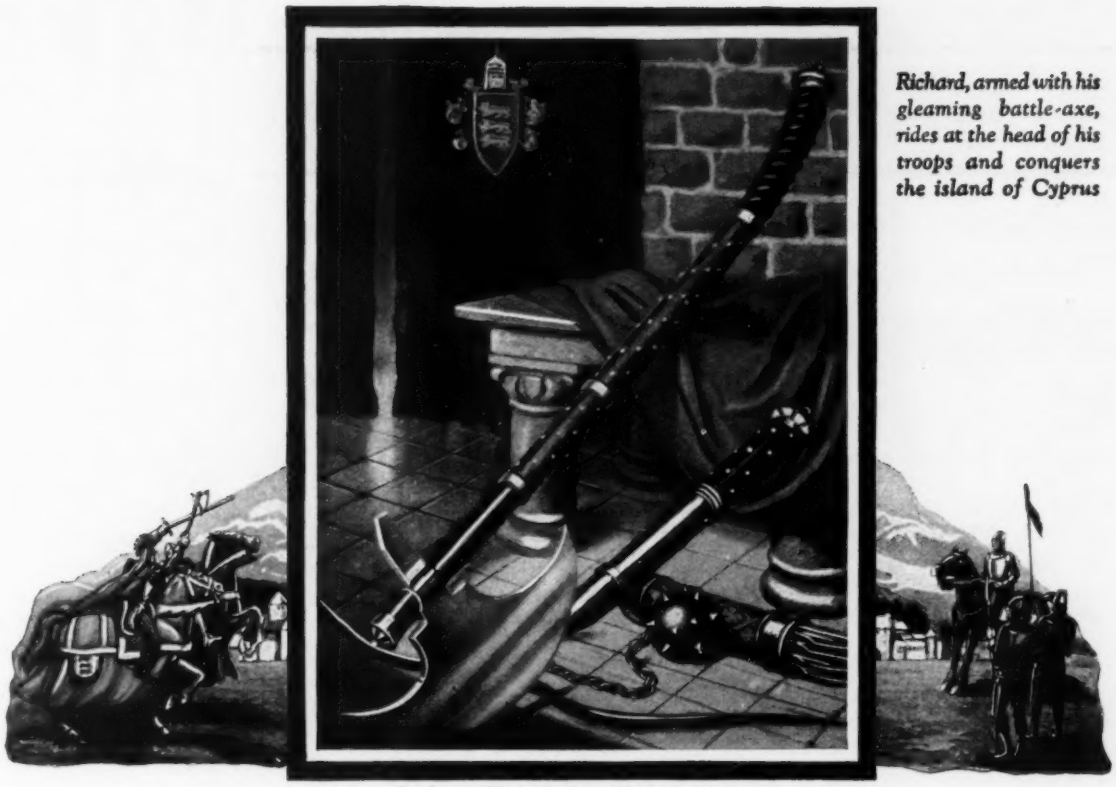
Oklahoma Is Eliminating Its Six-Month Term

Rural school terms of six months and less will soon be eliminated in Oklahoma, the state superintendent of instruction, John S. Vaughan, has announced. Three years ago there were 538 schools in the state running on a basis of six and one-half months and less, and now they number ninety-nine, showing a decrease not equaled by any other Southern state, Mr. Vaughan declared.

Increased state aid to rural education, it was explained, accounts for the gradual lengthening of the school terms of the state until now over 1,600 schools have nine-month terms, 193, eight and one-half, and over 2,630 have eight-month terms.

Three years ago, before the state aid to weak schools was inaugurated by the legislature, setting aside a portion of the gross production tax on oil, forty schools out of every 1,000 had six-month terms, a report of Mr. Vaughan shows. Last year, only five out of every 1,000 reported such short terms.

Not only have the poorest districts been able to increase their terms, but others which have not been able to hold the full nine-month term have also been able to increase. By increasing the length of eight-month schools, the state last year added 6,075,000 days of educational opportunity for children of Oklahoma over the opportunities in 1926. The number of rural schools having nine-month terms last year was increased over three years ago from 782 to 1,273, or 63 per cent.



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Battle-axe of Richard. Painted by Ludwig Gassner

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News of the Month

Boston Boasts Splendid New High School

High school pupils of the Brighton district, Boston, are now attending classes in what the *Boston American* calls "the finest high school building in the United States." The new Brighton High School cost $1,250,000. It faces the old Brighton High School.

It is an imposing building set impressively back from the street. The architecture is unusual. The exterior is faced with Indiana limestone. The windows and doors are arched. The roof and towers are flat. In niches in the wall on the gymnasium and hall towers at either end of the structure are statues representing labor, science, trade, justice, philosophy, music, art and history.

The assembly hall seats 1,200 pupils. The building contains twenty-six classrooms, three study rooms, a music room, a millinery room, a sewing room, four laboratories, two drawing rooms, a commercial geography room, an office practice room, a cooking room, a domestic science room, a blue print room, a health room, two teachers' rooms, two lunch rooms seating 250, and a lunch room kitchen.

Construction on the new school was started early in 1929.

Lottery to Finance Spain's New University City

An annual lottery is expected to finance the new University City now in process of construction in Madrid, Spain, according to correspondence to the *London Times*. The proceeds of the lottery of 55,000 tickets, costing 1,000 pesetas each, to be drawn in May, with 8,278 prizes ranging from 7,500,000 pesetas downward, are set aside for the University City. It is estimated that in ten years this lottery will produce sufficient funds to defray the initial cost of the enterprise.

The University City is the monument that King Alfonso chose three years ago to celebrate his jubilee on the throne. A vast plan was drawn up and work has gone on night and day for more than two years.

The University City has been planned in five zones: philosophy, science, letters and law; medicine; fine arts; international hostels, and sport. The Casa de Velázquez and the Fundación Del Amo for 150 American students are already open. The stadium is planned to seat 60,000 spectators.

Change Sought in Florida School Laws

Modernization of Florida's school code will be sought by a special committee of the state educational survey commission, according to an oral announcement on behalf of the committee.

The following information was made available through the announcement:

The special committee will work on its proposals and after submitting them to the commission as a whole the new code will be submitted to the 1931 session of the Legislature, which convenes April 1.

No changes have been made in the Florida school laws for the last twenty years. As a result, the new code will embody provisions sufficiently elastic to cover progress made during that period and to conform with modern educational ideas.

Among the changes to be considered are authorization of school busses, secretarial help for school principals and other vital points not now covered by the school statutes. A state equalization fund of $5,000,000 also is proposed, as is a provision requiring county superintendents to file their annual reports not later than September 1 of each year or suffer a penalty of withholding of school funds from the state until the report is received. Limitation of teachers' examinations so as to base certificates mostly on credits also may be proposed in the new code.

Radio to Be Part of Classrooms in Lancaster School

Work on the new three-story addition to the Lancaster High School, Lancaster, Ohio, is under way. The building is expected to cost around $223,000.

The exterior of the structure will be Colonial in design with red brick matching the present building. Trimmings on the exterior of the addition are to be of Indiana limestone.

Each of the nine new classrooms in the addition will be wired for radio instruction and visual education. Attachments are for reception and announcement. A clock signal system will be installed, to be controlled by a master clock. This will be used for the timing of classes and for dismissal. A modern gymnasium, auditorium, library and cafeteria are included in the addition.

World Survey of Physical Education Now in Progress

Physical education as it is publicly administered in the leading countries of the world is being surveyed for the White House Conference on Child Health and Protection by the legal division of the Library of Congress.

A digest of the laws, the main facts of administration and the general history of the system in each nation are being compiled for a formal report to be submitted sometime in the Fall. The investigation has involved considerable research and will represent, when completed, a comprehensive picture of international efforts towards the physical improvement of the races.

In the course of the investigation interesting materials have been discovered which will be placed at the disposal of the White House conference. From the report, comparisons will be possible, and it is expected that educators in the United States will benefit by what has been tried out in other countries.

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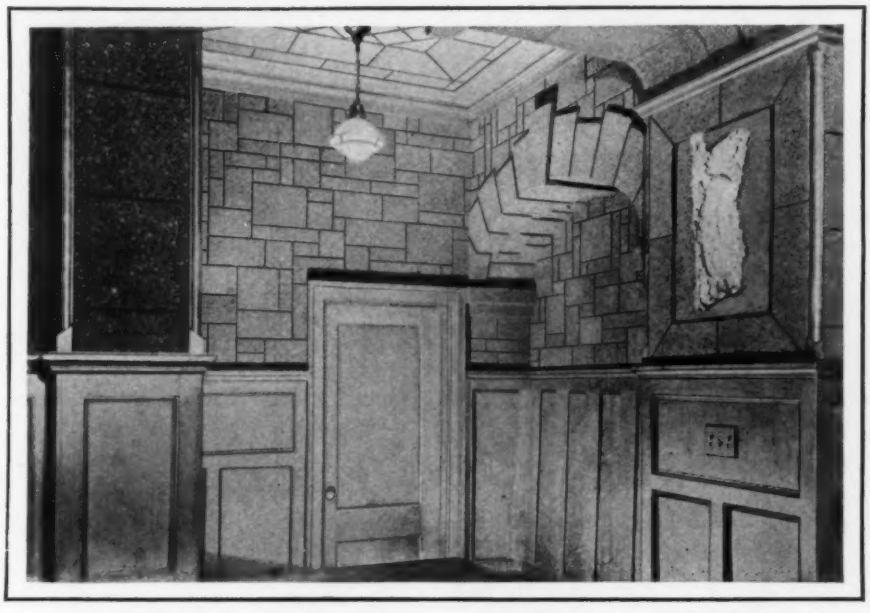
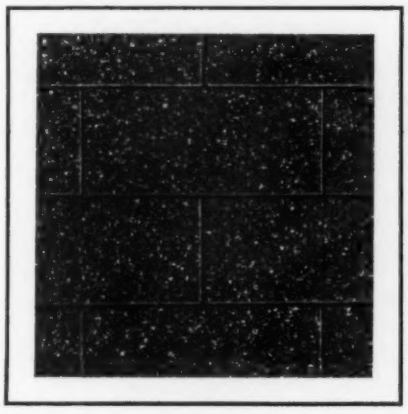
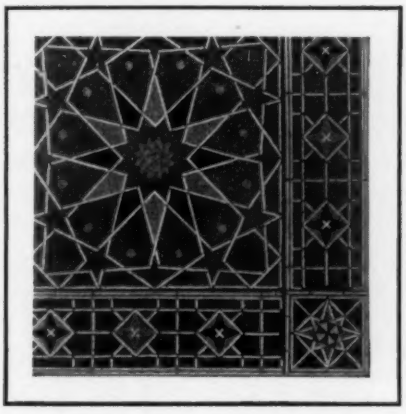


"Doing interesting things with cork" includes sound quieting, acoustical treatment, and insulation. All these qualities are present in this room which we recommend for school or college. With Corkoustic ceiling and walls, noise is muffled. Hearing is easy. Comfort is assured. Since cork effectively retards the passage of heat, rooms are warmer in winter, cooler in summer. And the saving in fuel is important.



In blended shades of brown, the Corkoustic panel is a decorative suggestion for any school wall and for the school ceiling that needs pleasant restraint. Almost any design can be created since Armstrong's Corkoustic is made in sizes from 12″ x 6″ to 12″ x 36″ and in several types of surfaces and finishes. Corkoustic consists of firm, strong cork panels applied direct to ceilings and walls.



A Corkoustic ceiling permits an almost unlimited range of patterns. This Persian panel is achieved by spraying red, blue, gold, and green cold water paint on the cork surface. We recommend this colorful design as an allover pattern wherever school ceilings need sparkle and color. Of course the decorative design does not even slightly hamper the sound-absorption value of Armstrong's Corkoustic.

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ARMSTRONG CORK COMPANY, 939 Concord St., Lancaster, Pennsylvania.

Armstrong's CORKOUSTIC

The modern acoustical, insulating treatment.

In the Educational Field

DR. RICHARD R. FOSTER, recently appointed assistant director in the research division, National Education Association, will give particular attention to studies affecting the personnel of the teaching profession. DOCTOR FOSTER was formerly director of research, Ohio Education Association, where he was active in carrying on studies for the Ohio Education Council.

W. T. LONG, superintendent of schools, Yadkin County, N. C., has resigned and is being succeeded by C. W. RIDEN, principal of the Boonville School, Yadkin County.

JAMES M. TURNER, head of the St. Paris, Ohio, schools for the past fourteen years, is the newly appointed superintendent of the Malta-McConnellsville, Ohio, system.

CHARLES F. YOUNG has been chosen to fill the newly created superintendency at East Pittsburgh, Pa. SUPERINTENDENT YOUNG was supervising principal of the schools for the year 1929-30.

A. R. WHITE, the former principal of the high school, Bryan, Ohio, has been elected to the superintendency of the schools of that city. MR. WHITE succeeds J. W. WYANDT, who had held the post for about thirty years.

E. W. ELLIS, East Wareham, Mass., has been appointed superintendent of schools at Farmington, Conn.

MARY A. S. MUGAN, assistant superintendent of schools, Fall River, Mass., died recently.

THE REV. ALOYSIUS J. HOGAN has been appointed president of Fordham University, New York City, succeeding the REV. WILLIAM J. DUANE who recently completed a six-year term.

BRIG. GEN. WILLIAM VERBECK, prominent in military school circles, died suddenly at Manlius School, Manlius, N. Y., recently. He had been head of Manlius since 1888.

WILLIAM B. DAVIS, superintendent of schools, Madison, N. J., has been appointed to head the schools of Morris County, N. J., succeeding DR. J. HOWARD HULSART, who has resigned because of the age limit.

CLAUDE TEAGUE, superintendent of schools, Lee County, N. C., has resigned to take an executive position at North Carolina College for Women. The new head of the Lee County schools is GEORGE WHEELER, superintendent of the Farmville, N. C., schools for the last ten years.

WILLIAM B. HARTLEY, formerly connected with the Jamesburg State School for Boys, Jamesburg, N. Y., has been elected principal of the schools of Brooklawn, N. J. He succeeds GEORGE H. LLOYD, principal of the school for the last two years.

CARL H. GALLOWAY, supervising principal, Point Pleasant Beach schools, Point Pleasant Beach, N. J., since 1926, has resigned to accept the principalship of the public schools, Metuchen, N. J.

FRANK S. GILKEY has been named headmaster, Medford High School, Medford, Mass. MR. GILKEY has been in the service of the Medford schools for the last thirty-three years.

DR. FREDERICK E. CLERK, for the last seven years superintendent, New Trier Township High School, Winnetka, Ill., died suddenly, September 12. DOCTER CLERK was a former superintendent of schools at Cleveland and at Seattle, Wash. Before going to Winnetka he was superintendent, Handley Foundation High School, Winchester, Va.

JAMES G. ROBINSON was recently promoted from the assistant superintendency of the Fayette County, Pa., schools to the post of superintendent.

BROTHER C. G. MCMAHAN has been named principal, Christian Brothers' High School, Butte, Mont., succeeding BROTHER J. MCCARTHY, who has been transferred to Chicago.

DR. OLIVER P. CORNMAN, associated superintendent of schools, Philadelphia, died recently at the age of sixty-four. DOCTOR CORNMAN had been associated with the schools of Philadelphia for forty-three years.

HARRY N. PETERSON has been elected to the superintendency of the Alexandria, Minn., schools which position was vacated by H. B. GOUGH who will fill a similar position in St. Cloud, Minn. For the last four years MR. PETERSON was head of the school system of Ortonville, Minn.

J. RICHMOND MERKEL, formerly principal of the high school at Kingston, Pa., has been appointed superintendent of the Kingston schools.

C. W. MCCLEARY, formerly superintendent of the centralized school of Ridge Township, Ohio, is now superintendent of the schools of Spencerville, Ohio.

JOSEPH H. HANDFORD is the recently elected president of the New Bedford Textile School, New Bedford, Mass. He succeeds ABBOTT P. SMITH, resigned, who continues as a member of the board.

GEORGE A. EICHLER is the new superintendent of schools of Northampton, Pa.

ALICE DESPAIN is the new superintendent of schools, Iowa City, Iowa.

W. W. ANKENBRAND, after serving five years as head of the schools at Charleston, Ill., is to be the new superintendent at Athens, Ohio.

GEORGE R. BRYANT is the new superintendent at Amanda, Ohio.

WILLIAM ELWOOD BAKER, city superintendent at Fort Morgan, Colo., has been appointed general secretary of the National Congress of Parents and Teachers by the national board of managers.

JOSEPH MITTEN has been appointed to the superintendency at Chatfield, Ohio.

JESSIE ALLEN, principal of the Philadelphia High School for Girls from 1923 to 1930, has resigned her position and expects to spend a year abroad.

A. D. ST. CLAIR, Granville, Ohio, will head the schools of Washington Courthouse, Ohio, for the coming year.

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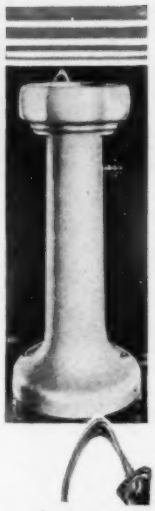

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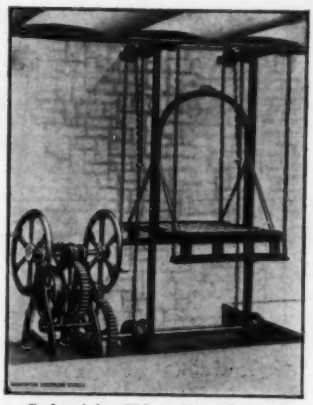

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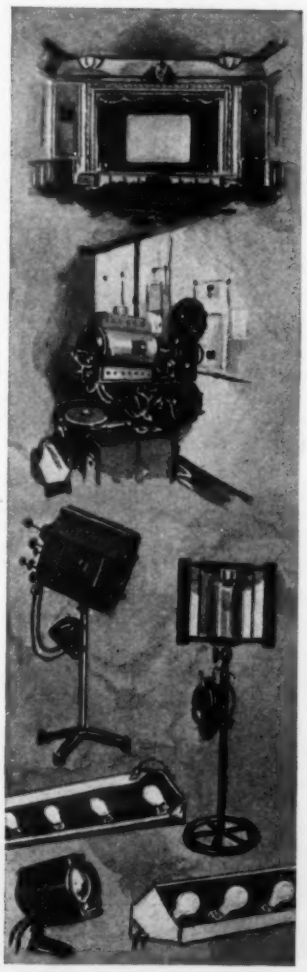

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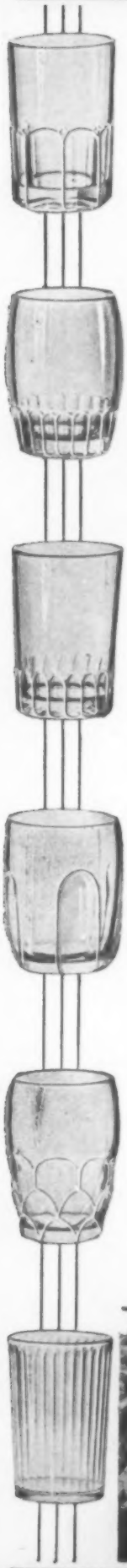

All cartons used in packing H Tumblers are made in our own carton factory. Efficient modern methods are employed. The cartons are assembled on Suction Tables which remove all dust and loose fibre. As a result H Tumblers come to you in a clean, dustless condition.

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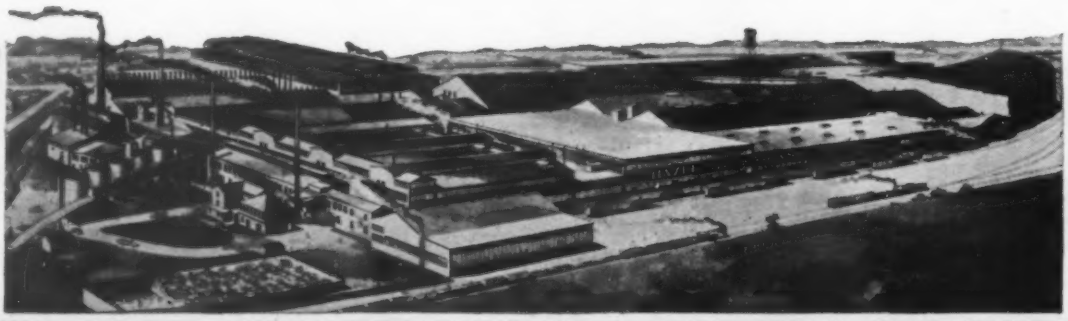

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built to withstand abuse!

The chair shown to the left is O. C. 3A—a low-priced, ruggedly-built style that is extremely popular for school use. It can be furnished with 5 ply, 7/16-inch, or 7 ply, 3/4-inch back. The seat is 5 ply, 7/16-inch. It is fitted with the exclusive H-W self-aligning, roller bearing steel hinge. Center standards are of steel. Thousands of this chair are always carried in stock, thus assuring prompt delivery.

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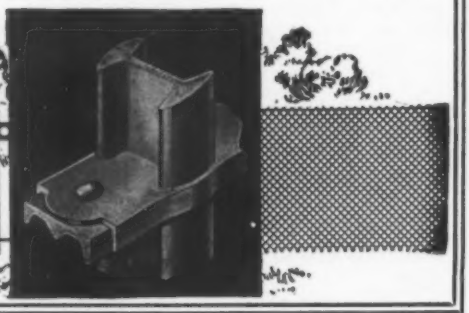

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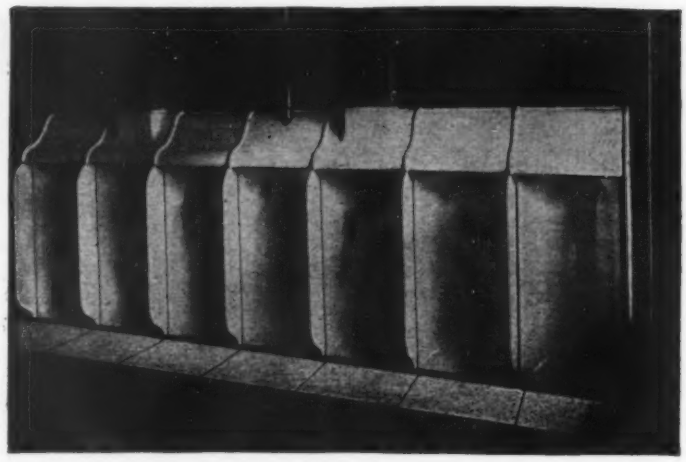

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School Equipment and Furnishings Need Semdac Liquid Gloss

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Semdac Furniture Dressing is an ideal polish for the finer furniture. It leaves a brilliant durable lustre. Merely applying it removes the dirt. Gentle rubbing with one or more clean, dry cloths brings out the rich, high lustre.

DESKS, cabinets, tables, painted and varnished surfaces, polished woods—all need the cleansing action, protection and luster presented by Semdac Liquid Gloss. On metals it removes finger prints, spots and guards against marks and scratches. On woods it restores original brightness and lends a cheerful film of gloss—never oily or greasy.

Every school will find economy in the use of Semdac. Its cleansing action is pronounced, it polishes effectively, it preserves completely—and it requires but a minimum of effort in application. This means big savings in maintenance. Semdac is sold in containers to meet every school requirement . . . barrels, half barrels, five gallon, gallon, half gallon, quart and pint cans. It is best for floors, walls, woodwork and equipment.

A few drops on a dust cloth will consume a surprising amount of dust, grime and dirt. It saves time, and it aids in maintaining a good standard of sanitation and inviting cheerfulness to the school interior.

STANDARD OIL COMPANY
(Indiana)
910 S. Michigan Avenue Chicago, Ill.

1907

SEMDAC

LIQUID GLOSS ··· FURNITURE DRESSING

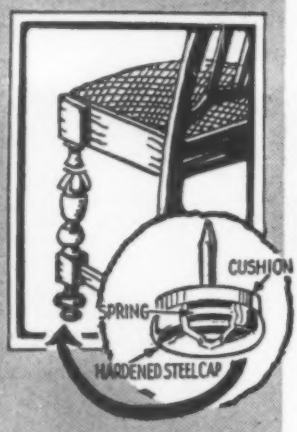
STANDARD OIL COMPANY (Indiana)
910 South Michigan Avenue, Chicago
I am interested in receiving
☐ Copy of Semdac Liquid Gloss Booklet.
☐ Prices of Semdac Liquid Gloss.
Name.....Address.....
City.....State.....

Tables and CHAIRS

NOISELESS

with BUCKEYE

SPRING-KUSHIONS



BANISH needless noises and disturbances that irritate the pupils and their instructors. Scraping or screeching of moving table and chair is completely eliminated by these remarkable and totally inexpensive Spring-Kushions. They save wear and tear on the furniture, the floors and everybody's nerves.

Write for Samples

JOBBERS—*we have an interesting proposition for you. Write or wire for details.*

BUCKEYE GLIDE CO.

117 East 23rd St., New York, N. Y.

Scenery

Asbestos curtains,
Velour curtains
and
Stage scenery for your
Auditorium stage.

Twenty years of experience in equipping High Schools has placed us in a position to know the particular requirements for your stage.

Write us for further information or request call from our representative.

Twin City Scenic Company

2819 Nicollet Ave., Minneapolis, Minn.
2310 Cass Ave. Detroit, Mich.

An Applicator Bottle

furnished with our compliments in your own medicine cabinet will soon convince you that

MERCUROCHROME — 220 SOLUBLE

(dibrom-oxymercuri-fluorescein)

IS THE

Logical Successor to Tincture of Iodine

FOR

First Aid Prophylactic and General Antiseptic Use

Mercurochrome stains as Iodine does, and it is the stain of Mercurochrome, as it is of Iodine, that shows just where and how effectively the germicide has been applied; it fixes the bactericidal agent in the field for a relatively permanent period which prolongs the asepsis or the sterilizing effect, and it provides for demonstrable penetration into the tissues beneath the superficial surfaces. Inasmuch as Mercurochrome is definitely proved an extremely efficient general antiseptic, it is only reasonable to consider it the successor to Iodine in this field, as it is free from the objectionable features of Iodine, for

MERCUROCHROME DOES NOT IRRITATE, BURN OR INJURE TISSUE

SELL YOURSELVES FIRST

HYNSON, WESTCOTT & DUNNING, INC.

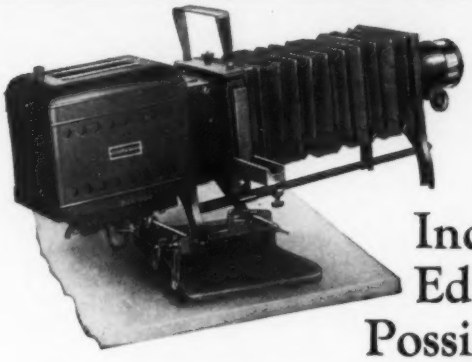
BALTIMORE, MD.

HYNSON, WESTCOTT & DUNNING, INC.
DEPT. N, BALTIMORE, MD.

Please send me Mercurochrome Applicator Bottle for personal use.

Name .....

Business Address .....



Increasing Educational Possibilities

The rapid acceptance by the nation's schools of visual means of instruction makes careful selection of projection equipment imperative. Projectors are used under many conditions, and the instrument must be suited to those conditions.

Bausch & Lomb Balopticons are made in models for every still projection requirement—lantern slides, still film, opaque objects—small classrooms, large auditoriums; daylight or darkened.

Model BDT Balopticon is the choice of many schools because it is a most efficient lantern slide projector.

Write for complete information on B & L Balopticons for school use.

BAUSCH & LOMB OPTICAL CO.
689 St. Paul St. « Rochester, N. Y.

BAUSCH & LOMB
Makers of Orthogon Eyeglass Lenses for Better Vision

This shows how easily and quickly children COAST TO SAFETY through the POTTER TUBULAR SLIDE FIRE ESCAPE. Installed on buildings two to five stories high.

SAFEST FOR SCHOOLS

Panics will start
Regardless of Fire Drills

FIRE—shrieking children run terror-stricken for the stairways. A child stumbles—falls, others fall over his body—IT'S A PANIC! Smoke-crazed children hurl themselves frantically over the down-trodden bodies of classmates, crushing out tender lives.

The only guarantee of a safe exit in time of fire is the Potter Tubular Slide Fire Escape—the first fire escape to be approved by the Underwriters' Laboratories—the fire escape that provides swift escape without the students passing through corridors full of blinding smoke and gases. Over 2985 installations have been made and NEVER has a single injury or loss of life occurred. Detroit schools ordered 33 Potters since May.

Interesting book on request

POTTER MANUFACTURING CORPORATION
1861 Conway Bldg., Chicago, Ill.

DAYTON Safety Ladder

(Patented)

Sometimes They're Called "The Dangerous Aisles"

Because ladder work in them is particularly risky for workers using old-fashioned, unsteady ladders, and falls in them are serious. The Dayton Safety Ladder keeps ladder workers safely *working* anywhere. It stands firm, without slipping or sliding. Its wide leg-spread easily straddles seats. Straight back permits close next-to-wall work. It *stands* without holding. In sizes 3 to 16 feet. Strong, light, folds flat for easy carrying—roomy, protected platform. Moderately priced.

Type "B" Dayton Ladder is smaller, safe, popular-priced. Seven sizes.

Write Dept. NS-10 for complete information

THE DAYTON SAFETY LADDER COMPANY
121-123 W. Third St., Cincinnati, Ohio

Stock carried by Pacific Coast representative, E. D. Bullard Co., Los Angeles and San Francisco, and by 160 other distributors from coast to coast. Made and distributed in Canada by Percy Hermant, Ltd., Toronto

Modern Schools Demand

SOUND-PROOF Rooms!

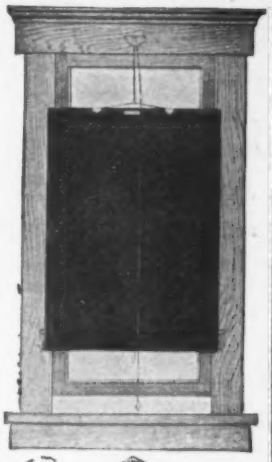
When you close the door of a classroom, all foreign noise is instantly eliminated and the pupil can concentrate one hundred per cent, protected from the noise that comes through ordinary doors.

Modern schools have adopted the *Hamlin Sound-Proof, Edge-Tight Door* as standard equipment. It deadens sound, prevents draft, open cracks or crevices and the room is as quiet as human ingenuity can make it.

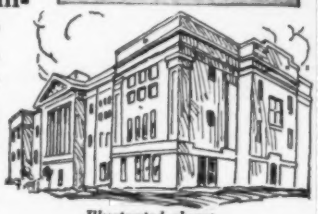
Write for the facts on this modern Hamlin method of sound-deadening and learn how easily this scientific method can be applied in your school.

HAMLIN
SOUND-PROOF DOORS
and folding partitions
IRVING HAMLIN, Manufacturer
1501 Lincoln St., Evanston, Ill.

DRAPER
ADJUSTABLE
Window Shades



FOR nearly a quarter of a century school boards have protected their window shade investments by specifying Draper Window Shades. Easy operation—long life—correct ventilation—the modifying and diffusing of light to eliminate glare—these features make Draper Window Shades specially adaptable for schoolroom use. Skilled workers and high standards of workmanship, backed by experiment and experience combine to produce a better shade, preferred by school buyers everywhere. Tested and proved daily in thousands of schools. For illustrated catalog describing the complete Draper line of School Shades, address Dept. N. S.



Illustrated above: Draper Sanitary Style Shade

Luther O. Draper Shade Company

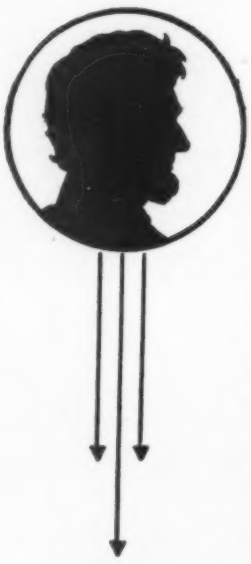
SPICELAND — Luther O. Draper TRADE MARK REGISTERED — INDIANA

PLEASANT EFFECTIVE
ACTUALLY PURIFY THE AIR

SEND for samples and prices of Falcon Air Sweetening Blocs, Crystals and Blockettes. They are unusually efficient and long lived because made by a special pressure moulding process. They are clean, easy to handle and leave no oily residue. Evaporate completely.

EAGLE SOAP CORP.
64 E. Jackson Blvd. — *Chicago, Ill.*

FALCON
DEODORIZING PRODUCTS



ENJOY THE BEST

Modern scientific equipment and management make it possible for you to enjoy the best in New York at the Lincoln. Bath, shower, servidor and the "sleepingest" beds imaginable in every room.

1400 Rooms—1400 Baths

NEW YORK'S NEW
HOTEL LINCOLN

$3-5 For One $4-7 For Two

Telephone Lackawanna 1400

Eighth Avenue, 44th to 45th Sts., Times Square

The "BUFFALO" CHOPPER

YOU can produce better chopped foods—in greater variety—in a "BUFFALO" because it cuts FINE without mashing or squeezing out the nutritious juices. It enables you to utilize every bit of food, thus practically eliminating waste.

With a "BUFFALO" Food Chopper you can prepare all kinds of chopped meats—raw or cooked, vegetables for soups, salads, dressings, bread crumbs, fruits, nuts, etc.—in a few minutes' time that takes hours by any other method.

And all this work can be done by one person, instead of two or oftentimes three, thus cutting down your labor costs.

The "BUFFALO" Food Chopper is recognized as an indispensable machine in thousands of kitchens—large and small.

Write for full particulars; prices and list of users.

Model 111A (above) has removable bowl Knives NEVER exposed.

Knives can be stopped while bowl continues to revolve; 100 per cent safe to remove food from bowl; gives perfect control over food being chopped. 4 sizes—for every kitchen, from the largest to the smallest.

JOHN E. SMITH'S SONS CO.

50 BROADWAY BUFFALO, N. Y.

Also manufacturers of the world-famous

"BUFFALO" Bread Slicer

A COMPLETE LINE OF PETERSON LABORATORY, LIBRARY DOMESTIC SCIENCE AND VOCATIONAL EQUIPMENT

Every product scientifically designed, carefully assembled and of the finest materials.

974 — Students Table for Chemistry, Physics, Biology, and General Science. This permits the students to face one way.

Write for our complete catalog No. 16-H.

LEONARD PETERSON & CO., INC.

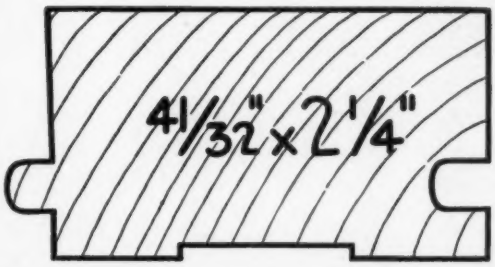
Manufacturers of Guaranteed Laboratory and Library Furniture

Office and Factory

1222-34 Fullerton Avenue Chicago, Illinois

Distributors conveniently located to serve you.

MAPLE FLOORING FOR SCHOOLS



The above flooring (illustration is actual size) is particularly adapted to GYMNASIUM and all HEAVY DUTY requirements.

ALL ROBBINS FLOORING is seasoned in the open air and then mechanically dried, insuring toughness and long life.

Specify **ROBBINS FLOORING** *FOR ALL SCHOOL PURPOSES*

ROBBINS FLOORING CO.
RHINELANDER
WIS.

A New WAYNE Sectional Steel GRANDSTAND

The Type "E"

To Sell for as Low as $1.50 per Seat

for stands having a few rows, and only slightly higher for stands having a larger number of rows.

The Type E design contains exclusive features never before incorporated in a stand selling at such low prices.

Send now for complete information

Wayne Iron Works

Largest Manufacturers of Portable Steel Stands

WAYNE, PENNA.

A GUARDIAN OF HEALTH!

Water flowing from R-S drinking fountains is pure—free from the contamination of lip contact—just a good, refreshing drink safeguarded by a patented Vertico-Slant feature. This arrangement provides a slight slant stream which prevents water from falling back upon the jet.

Let us give you complete information covering the line of Rundle-Spence Sanitary Drinking Fountains which are now available in color.

RUNDLE-SPENCE MFG. CO.

50 Fourth St. Milwaukee, Wisconsin

Happy Builders Store. Built with set No. 3. The whole class benefits from this project.

Start out this fall with HAPPY BUILDERS

Put this new educational guidance tool in your kindergarten. The latest development in instructing the small child. Make your kindergarten courses worth while. Teachers endorse them, children are enthusiastic over them. Already adopted by some of the country's largest school systems. 3 wonderful sets.

Send for catalog "N"

APPLETON WOOD PRODUCTS CO.

APPLETON, WISCONSIN

STRONGER THAN STEEL!

THE SOLID KUMFORT FOLDING CHAIR REG. U.S. PAT. OFF.

Bentwood

FOLDING CHAIRS

for Every Purpose!

for Hotels, Schools, Auditoriums

Also PRESS-TOE LOCK FOLDING CHAIRS

Neat, Strong, Long Lived

Write for Bulletin

LOUIS RASTETTER & SONS CO.

1404 WALL ST., FORT WAYNE, IND.

AN OPEN LETTER from the Microbe World to the School Boards of the Country

Association of
School-Dwelling Microbes
National Headquarters

October 1, 1930.

TO THE SCHOOL BOARDS OF THE UNITED STATES

As official spokesman for some millions of microbes residing in many of the best schools in the country, this committee humbly directs your attention to a condition, within your control, which is rapidly depleting our most flourishing colonies and driving us in hordes to less desirable habitats.

We can cope with the most deadly insecticides and even with ordinary linoleum, in which there are ample hiding places and playgrounds for our little ones. We request, however, that you discontinue using W. & J. Sloane Linoleum. Its uniform texture, smooth surface and absence of tiny crevices makes life extremely hazardous, - in fact, impossible!

Very respectfully yours,
Amos Microbe

SCHOOL officers and members of school boards, that letter is only one side of the question! Lest you be swayed by sentiment and tenderness for the microbes, let us send you our side of the story—a book entitled, "Linoleum—what it is—How it is made in the W. & J. Sloane Plant."

While it is true that one of the surest ways to rid a school building of insects of all kinds is to cover its floors with W. & J. Sloane Linoleum, the book gives many other reasons—sanitary, economic and decorative—for using this beautiful, modern floor-covering. We will be glad to send you a copy on request. W. & J. Sloane Mfg. Co., Trenton, New Jersey.

This book will show you why floors of W. & J. Sloane Linoleum are much to be preferred. Write for free copy, Advertising Department, W. & J. Sloane, 577 Fifth Avenue, New York, N.Y.

W. & J. SLOANE LINOLEUM

RIXSON No. 38
DOOR STAY
and HOLDER

BINGO!!!

and the School Door Hinges advance another step toward RUIN—

School doors opening on brick reveals, or against unflexible chains or door stops, are at the scant mercy of impetuous young folks. Only the best hinges can stand the gaff for long, and their maximum value is never realized. Cheap hinges quickly prove how expensive they can be.

Thus Rixson No. 38 Door Stay and Holders, are really life savers for the hinges on your school. They check violent outward swings by quick absorption of shock. Two curved spring arms, nested close up under the head jamb, resist as the door tends to draw them straight. There is no sudden jar nor strain.

An added feature is the integral door holder, which by the turn of a thumb piece keeps doors open for lines of marching children. (In the No. 39 model this is done automatically.)

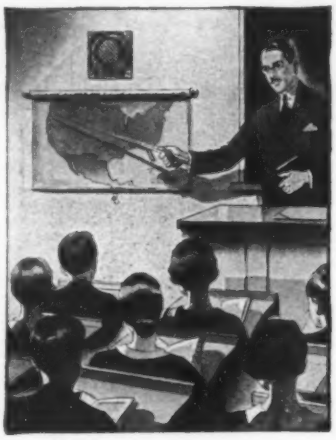
Ask your architect to discuss this improvement with you. Full details in Sweet's catalog.

THE OSCAR C. RIXSON COMPANY
4450 Carroll Avenue Chicago, Ill.
New York Office: 101 Park Ave., N. Y. C.
Philadelphia Atlanta New Orleans Los Angeles Winnipeg

RIXSON
Builders' Hardware

Overhead Door Checks
Floor Checks, Single Acting
Floor Checks, Double Acting
Olive Knuckle Hinges
Friction Hinges
Casement Operators & Hinges
Concealed Transom Operators
Adjustable Ball Hinges
Butts, Pivots and Bolts
Door Stays and Holders

CENTRALIZED RADIO INSTALLATION "HAS PROVED OF GREAT ADVANTAGE"



says
PRINCIPAL AMOS E. CLARK
Ventura, California Schools

AFTER his successful experience with RCA Centralized Radio in the Ventura, Calif. City Schools, Amos E. Clark writes:

"Your radio equipment has proved of great advantage. We receive outside programs every noon-time . . . also special educational programs during school hours. A radio system certainly helps keep a school up-to-date."

RCA Centralized Radio is extremely simple, economical, prevents future wiring costs, avoids unsightly individual antennae and lead-in connections.

RCA engineers design each installation to meet the particular needs of the school. Although fully standardized, no equipment is ever "adapted," with the unsatisfactory results which accompany such practice.

Central control equipment, usually located in the principal's office, brings as many as four different broadcast programs to any or all classes or assembly rooms. Either radio or phonograph reproduction is available by means of specially designed loudspeakers of highest quality.

Let Us Prepare Estimate

Descriptive pamphlets of this system and photographs of typical installations are available to architects, school boards, superintendents and principals. Without any obligation, we shall gladly prepare plans and estimates for installations of any size.

• RCA •
CENTRALIZED RADIO

ENGINEERING PRODUCTS DIVISION, SECTION F

New York City . . 261 Fifth Avenue
Chicago . . . 100 W. Monroe Street
San Francisco: 235 Montgomery Street

Representatives in Principal Cities

See the permanent RCA Centralized Radio Exhibit at the RCA Victor Salon, Boardwalk, Atlantic City.

NOW·· *Moist-Air* [HUMIDITY] for school rooms !

As low as $150 *each for these automatic Humidifiers to preserve health and cut fuel bills*

(F. O. B. FACTORY . . . INSTALLATION EXTRA)

NOW, full of health and energy, children return to school. All summer long they've breathed moist air, healthy air. Don't let dry, over-heated, Thirsty Air in school rooms sap all this health away. Don't let it pale their cheeks; bring on colds, bronchitis, sinus trouble, mastoids; parch the respiratory tract and cause weakening respiratory ills.

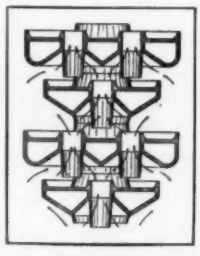
Doctors say that Thirsty Air . . . air without correct moisture content . . . is enervating and dangerous to health in our winter steam, vapor, and hot water heated schools, no less than too little sunlight. It warps and cracks and damages woodwork too, and furniture and book bindings. It runs up fuel bills, demanding over-high temperatures to maintain comfort.

It's so easy to banish. Wholly, economically, automatically. With a Doherty-Brehm Humidifier.

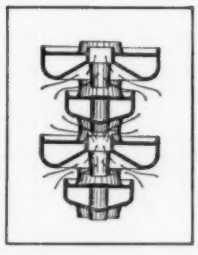
Here is no inadequate makeshift or radiator pan, evaporating a ridiculously inadequate amount of water. One Doherty-Brehm Humidifier will evaporate up to 100 gallons of water daily, enough to humidify up to 50,000 cubic feet of air space. Additional units, properly placed, take care of needs in even the largest schools.

It is installed in the regular heating system, just like an ordinary radiator. It is as simple, as automatic, as trouble-free, as an ordinary radiator. And it takes the place of an ordinary radiator, heating as well as humidifying. Indeed, it gives off more heat than an ordinary radiator of the same radiating surface.

It has been worked out by experienced heating engineers, scientifically applying the fundamental laws of evaporation. It has been exhaustively tested by impartial air conditioning engineers. It has been proved in thousands of actual installations.



Here is a diagram of sections and air circulation for hot water systems



A diagram of sections and air circulation of the Humidifier for steam or vapor

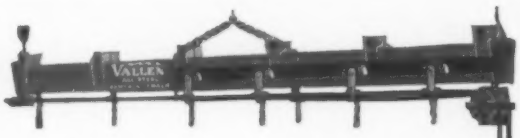
$150 to $225, f. o. b. factory, installation extra, in beautiful metal cabinet. Supplied also for recessing into the wall. Types and sizes for any building heated by steam, vapor, or hot water. The water, fed in at the top, spreads out over the horizontal first section, overflows through a downspout and spreads out over the second section, and so on until the last section is reached. A drain carries away the small unevaporated surplus.

Sold on the CRANE *Budget Plan*

Small schools, where low cost is a major consideration, can have it. They can buy it on installments and let its fuel savings help pay. It is sold through dependable heating and plumbing contractors everywhere by CRANE branches under *the* CRANE *Budget Plan for 10% down, the balance monthly.* Let us send a representative to explain it fully. Or we will mail you literature with complete specifications and data.

DOHERTY-BREHM CO.
333 North Michigan Avenue, Chicago

DOHERTY-BREHM
HUMIDIFIER



Make the School Stage as Practical as the Theatre's

Vallen Curtain Carrying Tracks are all-steel, safe, noiseless and dependable, easily erected by inexperienced workmen and once installed require absolutely no maintenance. Easily operated by pupils either manually or with complete electric motor driven push-button operated unit. Let Vallen show you how hundreds of theatres, auditoriums and schools have benefited by using this equipment.

VALLEN

VALLEN ELECTRICAL CO. INC.
AKRON, OHIO.

SAVE 75%
OF YOUR ANNUAL INK BILL

with this new air-tight, non-evaporating, dust-proof inkwell

No more mud! The improved, all-hard-rubber Sengbusch Self-Closing Inkstand always supplies clean, fresh ink to the pen.

No breakage! Protects desks, books and clothes. Simple to install. No special tools required. Millions in use. No modern school can afford to do without the inkwells that solve one of the most difficult problems of school management.

For Superintendent, Principal and Teacher—a complete line of desk necessities: Sengbusch Inkstands, Dipaday Desk Sets, Ideal Sanitary Moisteners, No-Over-Flo Sponge Cups, Kleradesk—Write for detailed information.

Sengbusch

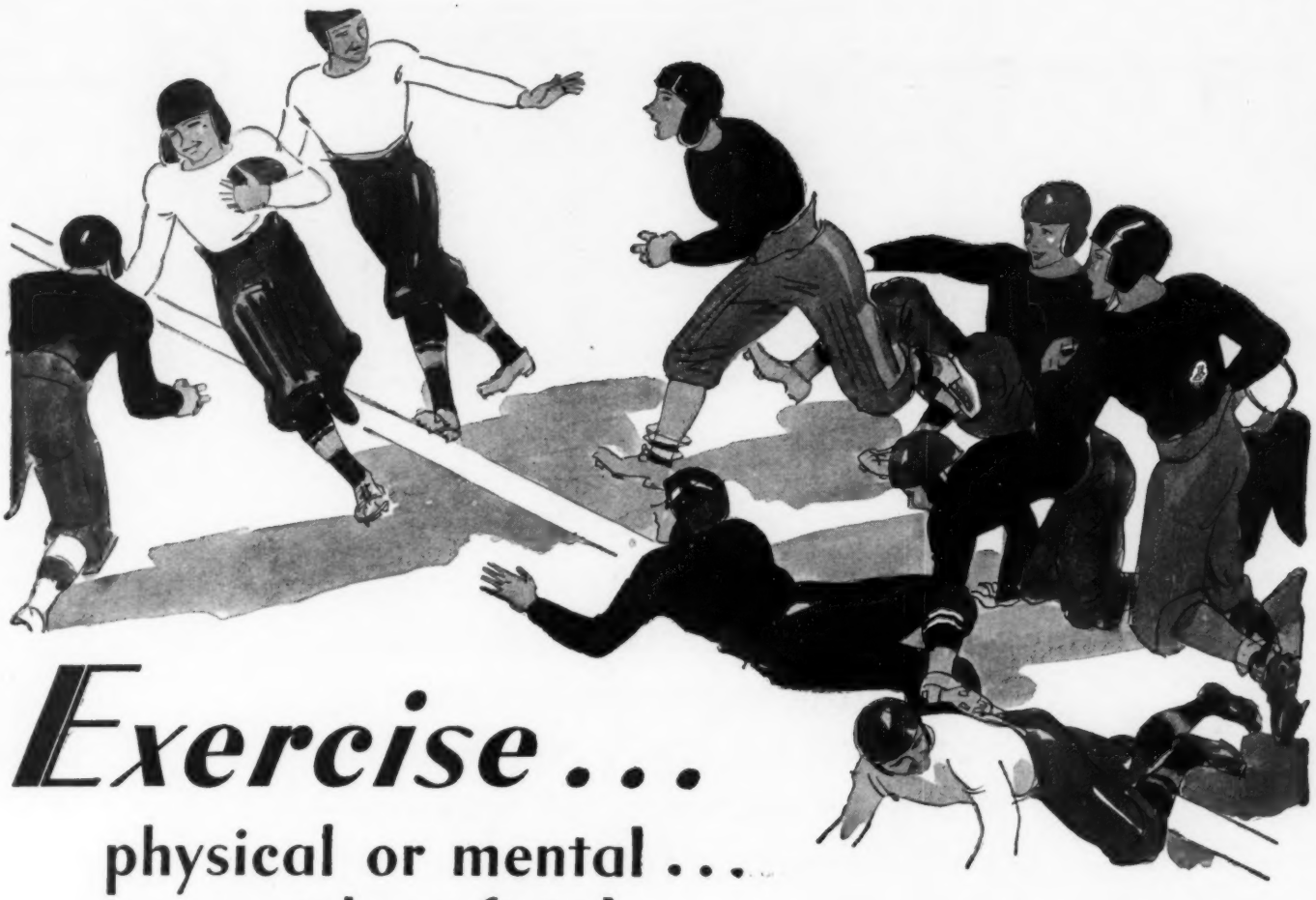
Self-Closing Inkstand Company
1021 Sengbusch Bldg., Milwaukee, Wis.

IN THE problems of administration the school executive is many times confronted with the need for some product or commodity that has not as yet come within his experience.

Because the service department of The NATION'S SCHOOLS is familiar with the many details that enter into the physical equipment of the modern school, executives may at any time call upon us to answer their questions. We are in an excellent position to advise on purchasing sources for all types of school products and to see that the executive is put in touch with a reliable manufacturer for any of his needs.

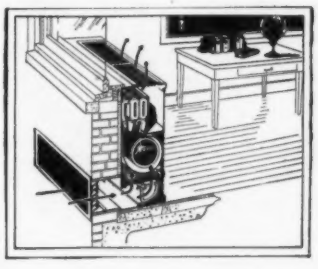
A letter or postcard will bring prompt response.

THE NATION'S SCHOOLS PUBLISHING CO.
919 North Michigan **Chicago**



Exercise . . .

physical or mental . . . is most beneficial in bracing outdoor air



FOOTBALL is hard work...but outdoor air keeps body and mind keyed up to their fullest powers.

Recitations and tests are hard work, too...but body and mind will be kept fresh throughout the day, if classrooms are filled with pure, invigorating, outdoor air...filtered...tempered... and passed into the rooms by Sturtevant Unit Heater-Ventilators. Mental exercise will not be robbed of its benefits by dead, enervating air and uncomfortable, dangerous drafts. Windows can be kept closed...temperature kept even.

Sturtevant Unit Heater-Ventilators are protecting the comfort and health of teachers and students in schools throughout the country. You will be interested to see how they are used... send for catalog 361.

B. F. STURTEVANT COMPANY

Main Offices: HYDE PARK, BOSTON, MASS.
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Also Agents in Principal Foreign Countries.

Sturtevant Unit Heater-Ventilator

Reg. U. S. Pat. Off.

SUPPLIES OUTDOOR AIR ~ FILTERED CLEAN ~ AND TEMPERED

NO Duriron Drain Line in service for which we recommend it, has ever been replaced because of corrosion. According to present day practice, architects generally recognize the ultimate economy of specifying anti-corrosive piping for the special waste systems from school laboratories. In your repair work and building extensions you will want to do likewise—install DURIRON.

DURIRON ACID PROOF DRAIN-PIPE

Full facts from The Duriron Company, Inc., Dayton, Ohio, or see . . .

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MAKE THIS TEST

Try it on YOUR *Floor Now*

The new FINNELL Combination

Scrubs faster than one can mop. Cleaner floors at lower cost than mopping. Scrubs and picks up water in one operation.

A Size for Every Purpose

The FINNELL scrubs and polishes—electrically, exerting from 35 to 60 pounds pressure on the brushes (depending upon the size of the machine.) Clean water is provided for every square inch of floor space and the brushes dig down beneath surface dirt until every particle is routed, even from between the cracks and crevices.

DAMPEN a sponge. Squeeze a few drops of water from it onto a section of the floor which hand scrubbers have just gone over. Sprinkle a little abrasive powder (such as Finola). Then rub firmly with the sponge for a moment.

Does a clean spot show up, in what you thought was a clean floor? You may say, this could be done on any floor. But let one of our men go over the same floor with a FINNELL Scrubber. Then try the "Sponge test." See if you get anything like the spot you could on the hand-scrubbed floor.

Schools should be the cleanest buildings in the community. The FINNELL Scrubber-Polisher will keep them so. Such floors will exert a definite influence upon both teaching staff and pupils, encouraging cleanliness and orderliness of both person and surroundings, virtues which modern education should include.

Why not investigate now and quit wasting time and money on old fashioned methods which get floors only half clean? Eight models of the FINNELL Scrubber-Polisher, together with auxiliary equipment, permit twenty different systems. Let us make a survey of floors in your schools and recommend the system best adapted to your needs. Address: FINNELL SYSTEM, INC., 1510 East Street, Elkhart, Indiana.

For home use, too

A light weight, double-disc FINNELL machine made especially for homes and other small areas. A many-in-one machine, it waxes, polishes, finishes and scrubs — wet or dry. Costs only $75.00 complete. Write for easy purchase terms.

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ELECTRIC FLOOR MACHINE

It Waxes — It Polishes — It Finishes — It Scrubs

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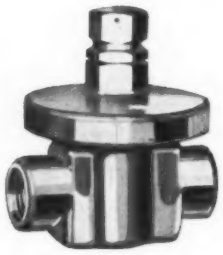
No. 9531, Angle stream non-squirting bubbler.



No. 9620, Angle stream regulator.

No. 9026-A, Crane TYRONE *pedestal drinking fountain.*

Built to protect you against mischief

. . . *your students against infection*

The new Crane drinking fountains for schools are proof against contamination . . . against mischief.

Neither lips, nor contaminated water, nor fingers can come in contact with their supplies.

The special Crane raised angle stream bubbler, the lip guard, hood, and non-squirting spout combine to furnish this protection.

You are urged to see them. To learn why their installation and performance will save you money . . . why they conform with the requirements of the American Public Health Association and have been approved by the Chicago Board of Health.

Here are the features to examine when you do see these fountains,—check them—

(1) Constructed of twice-fired vitreous china; impervious to wear or ordinary stain.

(2) The elevation of the angle stream bubbler above the rim of the receptor prevents contamination of the water supply, even when the outlet is clogged and the receptor overflows.

(3) The lip guard is made so that it prevents the lips from touching the spout.

(4) The protecting hood prevents saliva or foreign matter from falling into the spout.

(5) The construction of the spout makes it impossible for fingers to be placed directly on the supply.

(6) The automatic stream regulator guards against water waste and insures even height of drinking stream under varying pressures.

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